BLAUPUNKT
Bosch Telecom

Video Camera Recorder

CR-4400 7 618 846
CR-4700 7 618 845

Netzadapter / Power Adaptor
PC-100 (A) 8 627 105 423

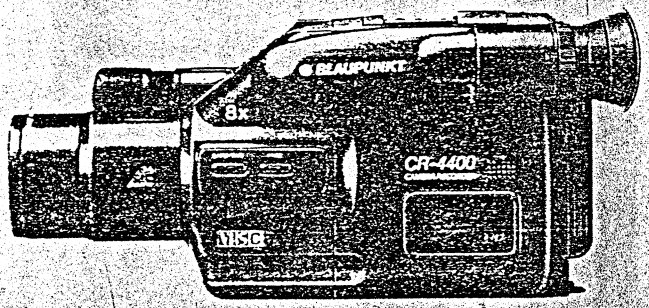
Sonderzubehör / Optional Accessories

Kundendienstschrift • Service Manual

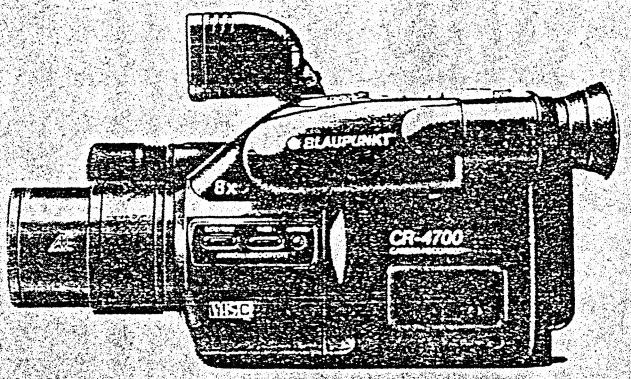
Ⓓ Btx * 30 39 68 #

MC / VKD 1 D91 420 016

VHS C HQ
PAL

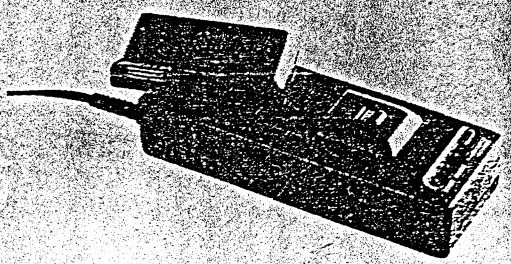


CR-4400

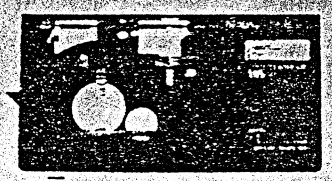


CR-4700

AX-120



PC-100(A)



CA-4600

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BLAUPUNKT
Bosch Telecom

Video Camera Recorder
CR-8110 7 618 850

Netzadapter / AC Power Adaptor
PC-80, PC-80 A 8 627 105 424

Zubehör - Sonderzubehör
Accessories - Optional Accessories

Kundendienstschrift • Service Manual

Die CR-8110 basiert auf der CR-8100 und enthält zusätzlich die Infrarot Fernsteuerung.
In dieser Kundendienstschrift sind nur die Differenzen zur CR-8100 enthalten. Für den Service benötigen Sie auch die Kundendienstschrift für CR-8100 = 1 D90 420 033.

CR-8110 is the model which adds remote control functions to CR-8100.
In this service manual, the differences between CR-8110 and CR-8100 are described. When servicing, see the CR-8100 Service Manual 1 D90 420 033 with this.

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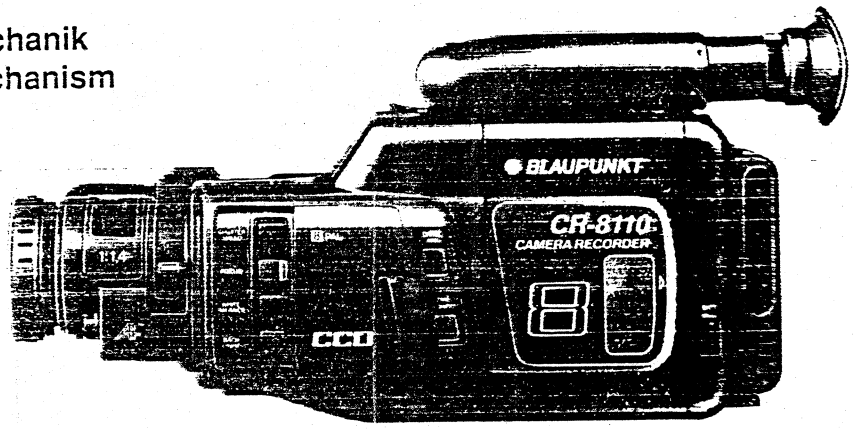
MC/VKD 1 D91 420 019

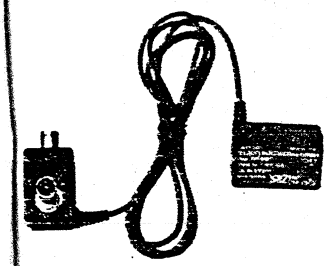
VIDEO 8

U-Mechanik
U Mechanism



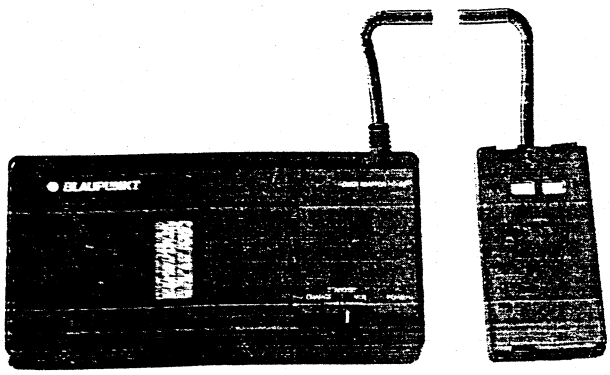
CR-8110

CRC-77



RF-80

AX-80



PC-80 (PC-80 A)

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Standardzubehör
Standard Accessories

Netzadapter Power Adaptor	PC-100 (A)	8 627 105 423
Akku Battery Pack	AX-120	7 618 891 700
AV-Ausgangskabel AV Output Cable		8 619 590 734
Stromversorgungskabel Power Supply Cable		8 619 580 552
Trageriemen Shoulder Belt		8 619 590 832

VHS, SVHS-Cassettenadapter (nur CR 4700) VHS, SVHS Cassettenad. (CR 4700 only) CA-4000	7 618 870 700
Videoleuchte (nur CR 4700) DC Video Light (CR 4700 only)	8 619 590 833
Batterie Lithium 3V Typ CR 2032 Battery Lithium 3V Typ CR 2032	
Batterie Typ Mignon (AA) (nur CR 4700) Battery Typ Mignon (AA) (CR 4700 only)	

Sonder-Zubehör Optik
Optional Accessories Optical

Tele-/Weitwinkel-Objektiv Comb. Conversion Lenses	CLC-3000	7 618 888 700
Linsen-Filtersatz Lens Filter Set	LFS-46	7 618 884 700
Grau-/Polfiltersatz Filter Set "Grey/Polarization"	FS-46 GP	7 618 886 700
Farbkorr.-Filtersatz Filter Set "KR"	FS-46 KR	7 618 885 700

Sonderzubehör
Optional Accessories

Koffer/Taschen-Kombination Carrying Case/Bag Combination	TWC-5500	7 618 881 700
Bereitschaftstasche Carrying case	CBC 4700	7 618 863 700
Halogenlampe für Videoleuchte (nur CR 4700) Halogen Lamp for DC Video Light (CR 4700 only)		7 618 860 700
Akku Battery Pack	AX-120 AX-240	7 618 891 700 7 618 893 700
HF-Adapter RF Adaptor	RF-4600	7 618 769 700
Kabelfernbedienung Pause Remote Control	WRX-1000	7 618 464 700
Autobatteriekabel Car Battery Cord	C-5500	7 618 896 700
VHS-Cassettenadapter VHS Cassette Adaptor	CA-4600	7 618 870 700
Handgriff Hand Grip	GC-5000	7 618 666 700
Klapp-Winkelschiene Folding angle rail	GC 300	7 618 889 700
Schulter-/Tischstativ Shoulder/Table Stand	STS-10	7 618 770 700
Klein-/Tischstativ Table Tripod	SC-500	7 618 762 700
Groß-Stativ Large Tripod	SC-1100	7 618 763 700
Stereo-Mikrofon Stereo Microphone	MIC-1100	7 618 792 700
Titelgenerator (nur CR 4700) Character Generator (CR 4700 only)	TC-20	7 618 784 700
Schnitt-Steuergerät (nur CR 4700) Editing Controller (CR 4700 only)	PVE-21	7 618 879 700
Schnitt Steuer-und Speichereinheit (nur CR 4700) Editing Contr. and Mem. Unit (CR 4700 only)	TES-100	7 618 875 700
Time Code Generator (nur CR 4700) VITC Generator (CR 4700 only)	TCG-100	7 618 872 700
Digital Video Mixer Digital Video Mixer	DVM-2000	7 618 878 700
Studio-Videoleuchte Studio Light	SVL-1100	7 618 766 700
Akku-Videoleuchte Battery operated Video Light	MVL-3000	7 618 883 700
Akku-Videoleuchte Battery operated Video Light	MVL-1100	7 618 765 700

Änderungen vorbehalten!
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BLAUPUNKT
Bosch Telecom

Video Camera Recorder
CR-4400 7 618 846
CR-4700 7 618 845

Netzadapter / Power Adaptor
PC-100 (A) 8 627 105 423

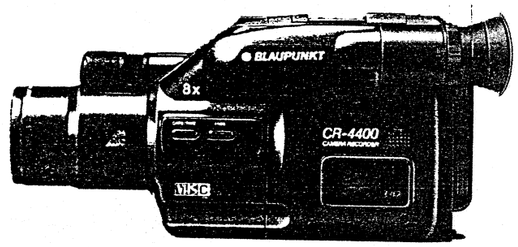
Sonderzubehör / Optional Accessories

Kundendienstschrift • Service Manual

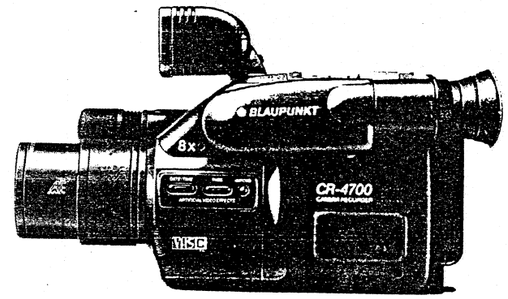
Ⓓ Btx ✶ 30 39 68 #

MC / VKD 1 D91 420 016

VHS C HQ
PAL

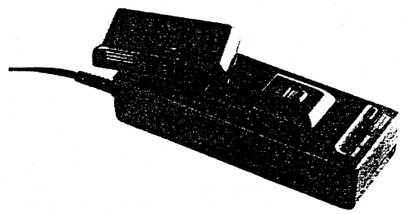


CR-4400

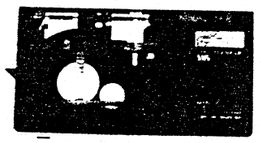


CR-4700

AX-120



PC-100(A)



CA-4600

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Technische Daten:

Video Camera Recorder CR-8110

Stromversorgung:	An Montageflansch anbringbar: Akku (6,0 V) Netzadapter (7,5 V)
Stromaufnahme:	6,9 W (Kameraufnahme)
Betriebsposition:	Vertikal, horizontal
Betriebstemperatur:	0°C bis 40°C
Lagertemperatur:	-20°C bis +60°C
Abmessungen:	ca. 122 x 153 x 317 mm (B/H/T), einschl. Sonnenblende
Gewicht:	ca. 1,2 kg, ausschl. Akku und Cassette
Mikrofon:	Elektret-Kondensatortyp, Kugelcharakteristik, Mono

System

Video-Aufnahmesystem:	2 rotierende Köpfe, Schrägspurverfahren, Frequenzmodulation
Audio-Aufnahmesystem:	Rotierende Köpfe, FM
Videosignal:	PAL-Farbnorm, CCIR-TV-Norm
Verwendbare Cassetten:	8-mm-Videoformat
Bandgeschwindigkeiten:	SP: ca. 20,051 mm/s LP: ca. 10,058 mm/s
Aufnahmezeit:	SP: 1,5 Std. (P5-90) LP: 3 Std. (P5-90)
Wiedergabezeit:	SP: 1,5 Std. (P5-90) LP: 3 Std. (P5-90)
Umspulzeit:	ca. 6 Min., 30 Sek. (P5-90)
Bildwandler:	1/3" CCD-Element (ChargeCoupled Device, 320 000 Bildpunkte)
Sucher:	Elektronisch (Schwarzweiß)
Objektiv:	6fach-Motorzoom, 1 : 1,4 / 7 - 42 mm mit Makro, Filterdurchmesser 46 mm
Autofokussystem:	TTL
Farbtemperatur:	AUTO, HOLD, INDOOR 3200 K, OUTDOOR 5800 K
Min. Beleuchtungsstärke:	5 Lux
Beleuchtungsstärkenbereich:	5 Lux - 100 000 Lux (0,5 - 9294 Footcandles)
Empfohlene Beleuchtungsstärke:	Über 300 Lux (28 Footcandles)
Blendenkorrektur:	Durch Gegenlichttaste

Eingänge und Ausgänge:

Videoausgang:	Cinchbuchse, 1 V_{ss}, 75 Ohm, unsymmetrisch, Video positiv
Audioausgang:	Cinchbuchse, -7,5 dBs, Ausgangsimpedanz von unter 2,2 kOhm
DC OUT:	Spezial-Minibuchse, 5 V Gleichspannung
Ohrhörerbuchse:	Mini, 8 Ohm Impedanz
Fernsteuerbuchse:	Stereo-Spezial-Mini
MIC-Buchse:	Mini, -66 dBs, niedrige Impedanz, mit 2,5 - 3 V Gleichspannungsausgabe, Impedanz 6,8 kOhm
Mikrofon-Speiseausgangsspannung:	Spezial-Mini, 5 V Gleichspannung

Lieferumfang:

1 Stück IR-Fernbedienung CRC-77
2 Stück Mignonzellen (R6) für Fernbedienung
1 Stück Akku AX-80 (6V / 1,4 Ah)
1 Stück Netzadapter PC-80(A)
1 Stück HF-Adapter RF-80
1 Stück Lithium Batterie 3V (CR 2025)
1 Stück Schulterriemen
1 Stück Bedienungsanleitung
1 Stück 8mm Videokassette (P5-60)

Specifications:

Video Camera Recorder CR-8110

Power requirements:	On battery mounting surface 6.0 V (battery pack) 7.5 V (AC power adaptor)
Power consumption:	6.9 W (camera recording)
Installation:	Vertically, horizontally
Operating temperature:	0°C to 40°C
Storage temperature:	-20°C to +60°C
Dimensions:	Approx. 122 x 153 x 317 mm (w/h/d) including sunshade
Weight:	Approx 1.2 kg excluding the battery and cassette
Microphone:	Electret condenser microphone, omni-directional monaural type

System

Video recording system:	Rotary two heads, Helical scanning, FM system
Audio recording system:	Rotary heads, FM system
Video signal:	PAL colour, CCIR standards
Usable cassette:	8 mm video format cassette
Tape speed:	SP: Approx. 20.051 mm/sec. LP: Approx. 10.058 mm/sec.
Playback time:	SP mode: 1 hour 30 min. (P5-90) LP mode: 3 hours (P5-90) SP mode: 1 hour 30 min. (P5-90) LP mode: 3 hours (P5-90)
Fast forward/rewind time:	Approx. 6 min. 30 sec. (P5-90)
Image device:	1/3" CCD (Charge Coupled Device 320 000 pixel)
Viewfinder:	Electronic viewfinder (b/w)
Lens:	Combined 6 x power zoom lens f = 7 - 42 mm. F 1.4 with macro, Filter diameter: 46 mm
Auto focus system:	TTL
Colour temperature:	AUTO, HOLD, INDOOR 3200 K, OUTDOOR 5800 K
Minimum illumination:	5 lux
Illumination range:	5 lux - 100 000 lux (0.5 - 9294 footcandles)
Recommended illumination:	More than 300 lux (28 footcandles)
Aperture correction:	Back light button

Input and output connector:

Video output:	Phono jack, 1 V_{p-p}, 75 ohms unbalanced sync negative
Audio output:	Phono jack, -7.5 dBs, (at output impedance less than 2.2 kohms)
RFU DC OUT	Special minijack, DC 5 V
Earphone jack:	Minijack, 8-ohm impedance
Remote jack:	Stereo special minijack
MIC jack:	Minijack, -66 dBs, low impedance with 2.5 - 3 V DC output, impedance 6.8 kohms
Microphone power output jack:	Special minijack, 5 V DC

Accessories Supplied:

1 piece IR remote controller CRC-77
2 piece R6 (size AA) battery for remote controller
1 piece Battery pack AX-80 (6V / 1.4 Ah)
1 piece AC power adaptor PC-80(A)
1 piece RFU adaptor RF-80
1 piece Lithium battery 3V (CR 2025)
1 piece Shoulder strap
1 piece Operating instructions
1 piece P5-60 video cassette

Technische Daten:

Video Camera Recorder CR-4400/4700

Betriebsspannung:	6 V Gleichspannung
Leistungsaufnahme:	Aufnahme-Betrieb: CR 4400: 6 V / 6,4 W (Batteriebetrieb) CR 4700: 6 V / 6,4 W (Batteriebetrieb) 11,5 W (mit Automatik-Lampe)
Video-Aufnahmesystem:	Schrägspuraufzg. VHS-C,
Bandgeschwindigkeit:	23,39 mm/sec. (SP) nur CR 4700: 11,7 mm/sec. (LP)
Bandformat:	VHS-C Videocassetten
Aufnahme/Wiedergabe-Zeit:	SP: 45 min. mit EC - 45 nur CR 4700: LP: 90 min. mit EC - 45
Köpfe:	Video: 4 rotierende Köpfe Audio/Sync.: 1 Kopf Löschen: 1 rotierender Löschkopf 1 Ganzspur-Löschkopf 1 Tonspur-Löschkopf

System

VIDEO

Fernsehsystem:	CCIR: 625 Zeilen, 50 Halbbilder PAL-Farbsignal
Ausgangspegel:	VIDEO Cinch-Buchse: 1,0 V_{ss}. 75 Ω asymmetrisch

AUDIO

Ausgangspegel:	AUDIO Cinch-Buchse: -8 dB, 600 Ω asymmetrisch
Tonspuren:	1 Normal-Spur (Mono)
Bildwandler:	1/3 Zoll CCD / 320 000 Bildpunkte (Charge Coupled Device)
Objektiv:	8fach Motor-Zoom, automatische Blendeneinstellung, Autofokus-System F1:1,4 (6-48 mm) mit Makroeinstellung, Objektiv-Durchm. (vorne) 43 mm
Sucher:	2/3-Zoll elektronischer Sucher
Weißabgleich:	Vollautomatisch, manuell mit weißer Kappe, Autom. Bereich: 2800° K - 5600° K
Standardbeleuchtung:	1400 Lux
Mindestbeleuchtung:	3 Lux (35 IRE)
Horizontale Videoauflösung:	VHS: besser als 230 Linien horizont.
Signal/Störabstand:	Video: besser als 40 dB (SP) Audio: besser als 41 dB (SP)
Tonfrequenzgang:	Normal-Spur: 80 Hz bis 8 kHz (SP)
Betriebstemperatur:	0°C - 40°C
Luftfeuchtigkeit:	20% - 80%
Gewicht:	ca.900 g (ohne Akku)
Abmessungen:	142 (B) x 120 (H) x 263 (T) mm

Lieferumfang:

1 Stück Videolampe (nur CR 4700)
1 Stück Akku AX-120 (6V / 1,2 Ah)
1 Stück Netzadapter PC-100
1 Stück VHS-Kassettenadapter (nur CR 4700)
1 Stück Mignon Batterie 1,5V (nur CR 4700)
1 Stück Lithium Batterie 3 V (CR 2032)
1 Stück Schulterriemen
1 Stück AV-Ausgangskabel
1 Stück Stromversorgungskabel
1 Stück Bedienungsanleitung

Specifications:

Video Camera Recorder CR-4400/4700

Power Source:	DC 6 V
Power Consumption:	Recording mode: CR 4400: 6 V / 6,4 W (Battery Operation) CR 4700: 6 V / 6,4 W (Battery Operation) 11,5 W (with Auto Light)
Video Recording System:	Recording by VHS-C,
Tape Speed:	23.39 mm/s (SP) CR 4700 only: 11.7 mm/s (LP)
Tape Format:	VHS-C tape
Recording/Playback Time:	SP: 45 min. with EC - 45 CR 4700 only: LP: 90 min. with EC - 45
Heads:	Video: 4 rotary heads Audio/Sync.: 1 head Erase: 1 rotary erase head 1 full track erase 1 audio track erase

System

VIDEO

Television System:	CCIR: 625 lines, 50 fields PAL colour signal
Output level:	VIDEO Cinch (Multi): 1.0 V_{p-p}, 75 Ω unbalanced

AUDIO

Output level:	AUDIO Cinch (Multi): -8 dB, 600 Ω unbalanced
Audio Tracks:	1 Track normal (Mono)
Image Sensor:	1/3-inch CCD / 320 000 pixel (Charge Coupled Device)
Lens:	8x Zoom, Auto Iris, Auto Focus System F1:1.4 (6-48 mm) with Macro Function, Lens Front Diameter 43 mm
Viewfinder:	2/3-inch Electronic Viewfinder
White Balance:	Full Auto, Set with white cap, Autom. range: 2800° K - 5600° K
Standard Illumination:	1400 lux
Minimum Required Illumination:	3 lux (35 IRE)
Video Horizontal Resolution:	VHS: More than 230 lines
Signal-to-Noise-Ratio:	Video: More than 40 dB (SP) Audio: More than 41 dB (SP)
Audio Frequency Response:	Track normal: 80 Hz to 8 kHz (SP)
Operating Temperature:	0°C - 40°C
Operating Humidity:	20% - 80%
Weight:	Approx. 900 g (without Accu)
Dimensions:	142 (W) x 120 (H) x 263 (D) mm

Accessories Supplied:

1 piece Video Lamp (CR 4700 only)
1 piece Battery pack AX-120 (6V / 1,2 Ah)
1 piece AC power adaptor PC-100
1 piece VHS cassette adapter (CR 4700 only)
1 piece Mignon battery 1,5V (CR 4700 only)
1 piece Lithium battery 3 V (CR 2032)
1 piece Shoulder strap
1 piece AV output cable
1 piece Power supply cable
1 piece Operating instructions

1. Transporthinweis

Wird der Camerarecorder längere Zeit nicht benutzt (bzw. gelagert oder transportiert) ist der Akku abzunehmen, da auch im abgeschaltetem Zustand ein kleiner Strom fließt.

2. Mechanische Wartung

Nachstehende Teile benötigen eine regelmäßige Reinigung, da sich mit der Zeit Bandabrieb ansammelt.
Bei Verwendung von Marken-Videocassetten sind die Reinigungsarbeiten nach ca. 500 Betriebsstunden durchzuführen. Bei Verwendung anderer Videocassetten können die Reinigungsarbeiten schon nach kürzerer Betriebszeit notwendig werden.

Reinigung der Rotationsköpfe

- Demontage der Gehäuseteile siehe „Servicevorbereitungen" Seite 1-5.
- Ein weiches Ledertuch (Kopfreiniger 8 619 497 813) oder ein fusselfreies Tuch mit reinem Alkohol anfeuchten und mit sanftem Druck auf die Rotationsköpfe halten. Nun die Kopfscheibe mit der Hand hin- und herbewegen. Diesen Vorgang wiederholen, bis der Bandabrieb beseitigt ist.

Reinigung von Führungsrollen, Andruckrolle, Capstanwelle und Bandführungen.

- Diese Teile sind mit einem Wattestäbchen, das mit reinem Alkohol angefeuchtet ist, zu reinigen.
- Nach Beendigung der Reinigungsarbeiten die demontierten Teile wieder montieren.
- Bevor die Videocassette eingesetzt wird, müssen alle gereinigten Teile gut abgetrocknet sein, um Bandschäden zu vermeiden.
- Antriebsriemen und Lager benötigen unter normalen Betriebsbedingungen keine Wartung.

Einstellung von Helligkeit und Schärfe im Sucher.

- Helligkeitseinstellung des Suchers = Regler „BRIGHT".
- Schärfeeinstellung des Suchers = Regler „FOCUS". Siehe auch Fig. 1.

3. Manueller Auswurf

a) Das Band in der Kassette ist eingezogen

- Die Taste Eject drücken.
- Die Kassettenfachabdeckung entfernen (siehe Fig. 6, Seite 6) und Position „A" mit einem Schraubendreher herunterdrücken (siehe Fig. 2).

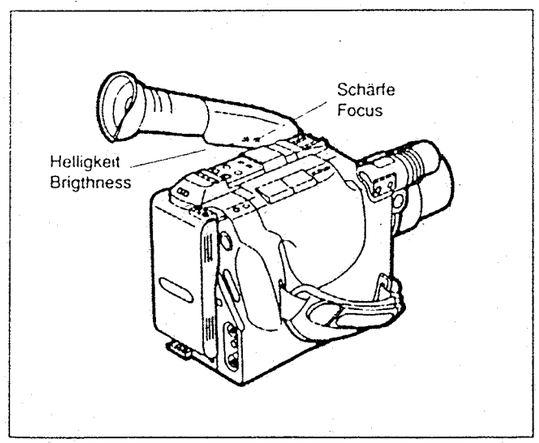


Fig. 1

1. Transport Advice

If the camcorder will not be used for some time (or stored or transported resp.) the battery pack must be taken off, as there is always a small current flowing.

2. Mechanical Servicing

The following parts require regular cleaning because of gradual tape abrasion.
If you use brand video cassettes, cleaning has to be performed approximately after 500 working hours. If you use other video cassettes, cleaning already becomes necessary after a shorter working time.

Cleaning of rotary heads

- Disassembly of the cabinet parts, see page 1-5 "Service Preparations".
- Moisten a soft leather cloth (head cleaner 8 619 497 813) or a lintfree cloth with pure alcohol and press it softly on the rotary heads. Move the upper cylinder by hand in either direction and repeat this procedure until the tape abrasion has been removed.

Cleaning of the guide rollers, pressure roller, capstan shaft and the tape sliders.

- These parts have to be cleaned with a cotton-wool bud moistened with pure alcohol.
- After finishing these cleaning works reassemble all disassembled parts.
- Before the video cassette can be inserted all cleaned parts have to be completely dry in order to avoid tape defects.
- Drive belts and bearing do not require servicing in normal working conditions.

Brigthness and Focus Adjustment for the EVF.

- Brigthness for the EVF = Adjuster "BRIGHT".
- Focus for the EVF = Adjuster "FOCUS". See Fig. 1.

3. Eject manually

a) In case that Tape is fully unloaded

- Push the Eject button.
- Remove the cassette cover (see Fig. 6, page 6) and push the "A" position (see Fig. 2).

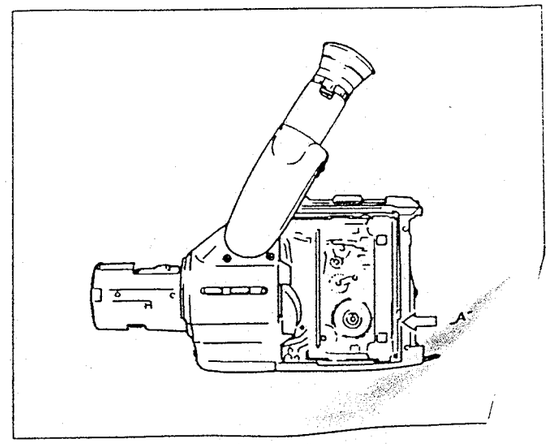


Fig. 2

b) Das Band ist nicht vollständig eingezogen, die Mechanik ist in Stop-Position

- Das rechte und linke Seitenteil abnehmen (siehe Fig. 8 und 10, Seite 6 und 7).
- Den Capstan Rotor drehen, bis das Band komplett in die Kassette eingezogen ist.
- Jetzt wie unter Punkt a beschrieben, vorgehen.

b) In case that tape is not rewound completely but mechanism is fully unloaded

- Remove the case L,R (see Fig. 8 and 10, page 6 and 7).
- Rotate the capstan rotor until tape is rewound ampletely.
- Now proceed as described in section a.

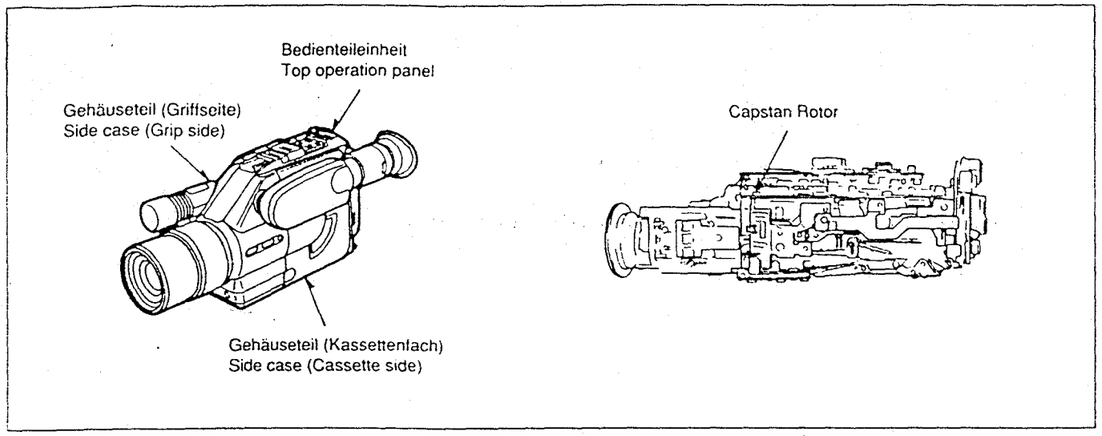


Fig. 3

c) Laufwerk und Band befinden sich in Ladeposition

- Die Gehäuseteile entfernen.
- Die Kamera-Hauptplatine und die Hauptplatine entfernen (siehe Fig. 14 und 15, Seite 8).
- Die Laufwerk-Verbindungsplatine vom Loading-Motor ablöten.
- Ein 2-adriges Kabel an den Loading-Motor anlöten.
- Eine Gleichspannung von 3 V an den Loading-Motor legen und damit das Laufwerk in die Stop-Position bringen. Das Band muß anschließend durch Drehen des Capstan-Rotors (rechts herum) vollständig in die Kassette eingezogen werden.
- Jetzt wie unter Punkt a) beschrieben, vorgehen.

c) In case that tape and mechanism are still in loading position

- Remove the cabinet parts.
- Remove the camera main c.b.a. and main c.b.a.(see Fig. 14 and 15, page 8).
- Desolder the mechanism connection c.b.a. from the loading motor.
- Solder a 2-lead wire on to the loading motor.
- Apply a DC voltage of +3V to the Loading motor until the drive mechanism is in the stop position. After this rotate the capstan rotor clockwise until the tape is completely rewound into the cassette.
- Now proceed as described in section a.

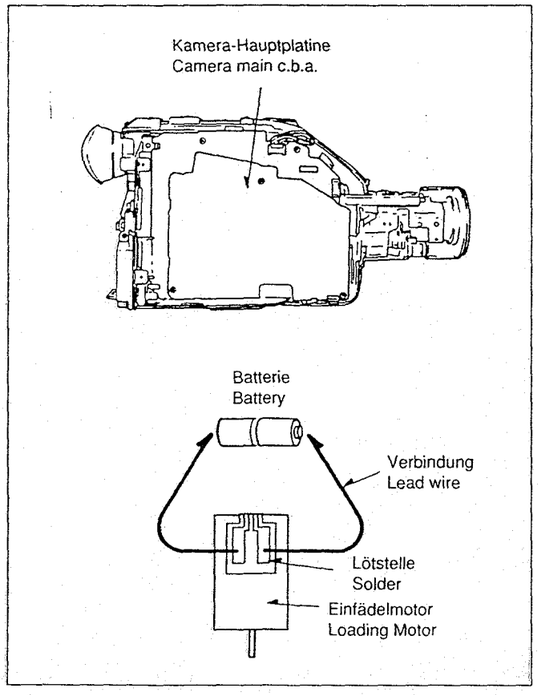


Fig. 4

4. Servicevorbereitungen

Flußdiagramm zur Demontage

Dieses Flußdiagramm zeigt die Reihenfolge, in der Gehäuseteile und Leiterplatinen demontiert werden müssen, um diejenigen Teile zu erreichen, bei denen ein Service notwendig ist.
Beim Zusammenbau die Schritte in umgekehrter Reihenfolge durchführen.

Hinweis:
Das Gerät ist sehr kompakt gebaut und hat teilweise Verriegelungsklemmen anstelle von Befestigungsschrauben. Arbeiten Sie daher beim Service äußerst vorsichtig, damit diese Verriegelungsklemmen nicht abbrechen.

4. Service Preparations

Disassembly flowchart

This flowchart indicates disassembly steps of the cabinet parts and the p.c. boards in order to find the items necessary for servicing. When reassembling, perform the steps in the reverse order.

Note:
This unit is very compact and has partly been fitted with locking portions instead of fixing screws. When removing the cabinet, work with care so as not to break the locking portions.

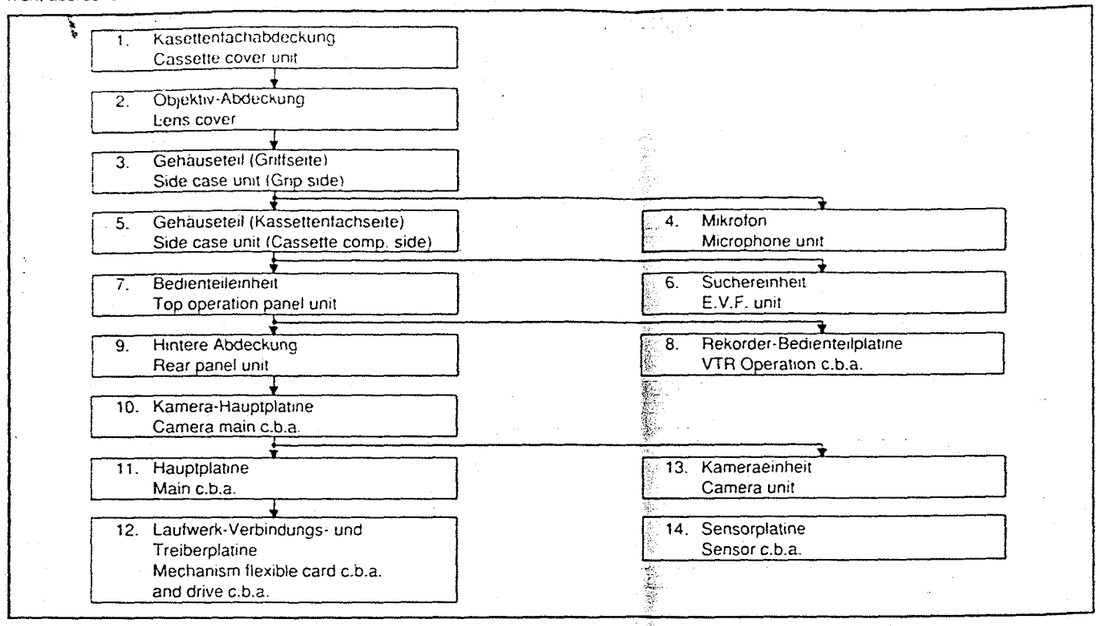


Fig. 5

Demontage der Gehäuseteile

Hinweise:
- Um eine Beschädigung der Teile während der Instandsetzung zu vermeiden, ein Tuch oder ein anderes weiches Material unter die Leiterplatinen oder das Gerät legen.
- Beim Zusammenbau sicherstellen, daß alle elektrischen Verbindungen hergestellt und keine Bauteile beschädigt sind.
- Während der Arbeiten dem Gerät keine Spannung zuführen.

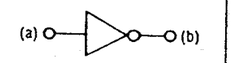
Disassembly of Case

Notes:
- Place the cloth or any other soft material under the p.c. boards or unit for preventing them from being damaged while servicing.
- When reinstalling, ensure that the connectors are connected and that no electrical components are damaged.
- Do not supply power to the deck during working.

Demontageschritte **Disassembly Steps**	**Entfernen, entriegeln, abziehen** **Remove, unlock, disconnect**	**Bemerkungen** **Remarks**	**Fig.** **Fig.**
Kasettenfachabdeckung Cassette cover unit	2 Schrauben (A) 2 Screws (A)		6 6
Objektiv-Abdeckung und Tastenfeld Lens cover and lens operation unit	2 Schrauben (B), 1 Schraube (C) 2 Screws (B), 1 Screw (C)	Die Sonnenblende mit der flachen Hand nach links drehen und abnehmen. Put the palm to the lens hood. Rotate the lens hood to counter-clockwise and remove it.	7 7
Gehäuseteil (Griffseite) Side case unit (Grip side)	10 Schrauben (D), 1 Stecker B 4001 10 Screws (D), 1 Connector B 4001	Zuerst den Zubehörschuh abnehmen. First remove the shoe adaptor.	8 8
Mikrofon Microphone unit	1 Schraube (E), 1 Schraube (F), Mikrofonstecker 1 Screw (E), 1 Screw (F), Microphone connector	Das Mikrofon nach vorn abziehen. Remove the microphone to the front.	8,9 8,9
Gehäuseteil (Kassettenfachseite) Side case unit (Cassette compartment side)	7 Schrauben (G) 7 Screws (G)		10 10
Suchereinheit E.V.F. unit	2 Schrauben (I), 1 Stecker P 6004 2 Screws (I), 1 Connector P 6004		11 11
Rekorder-Bedienteileinheit VTR Top operation panel u.	1 Schraube (J), 1 Stecker B 1501 1 Screw (J), 1 Connector B 1501		10 10

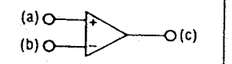
SYMBOL / TRUTH VALUE TABLE

INVERTER



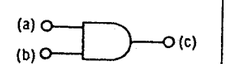
IN	(a)	H	L
OUT	(b)	L	H

COMPARTOR



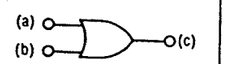
IN	(a) / (b)	(a) > (b)	(a) < (b)
OUT	(c)	H	L

AND CIRCUIT



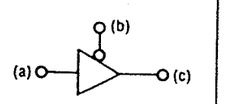
IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	L	L	H

OR CIRCUIT



IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	H	H	H

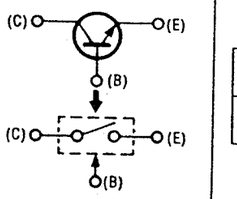
THREE STATES BUFFER



IN	(a)	H	L	H or L
	(b)	L	L	H
OUT	(c)	H	L	※

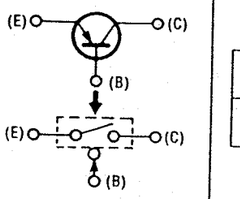
※ High Impedance

TR. SW (NPN TYPE)



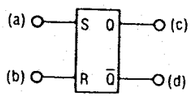
BASE	H	L
TR. SW	ON	OFF

TR. SW (PNP TYPE)



BASE	H	L
TR. SW	OFF	ON

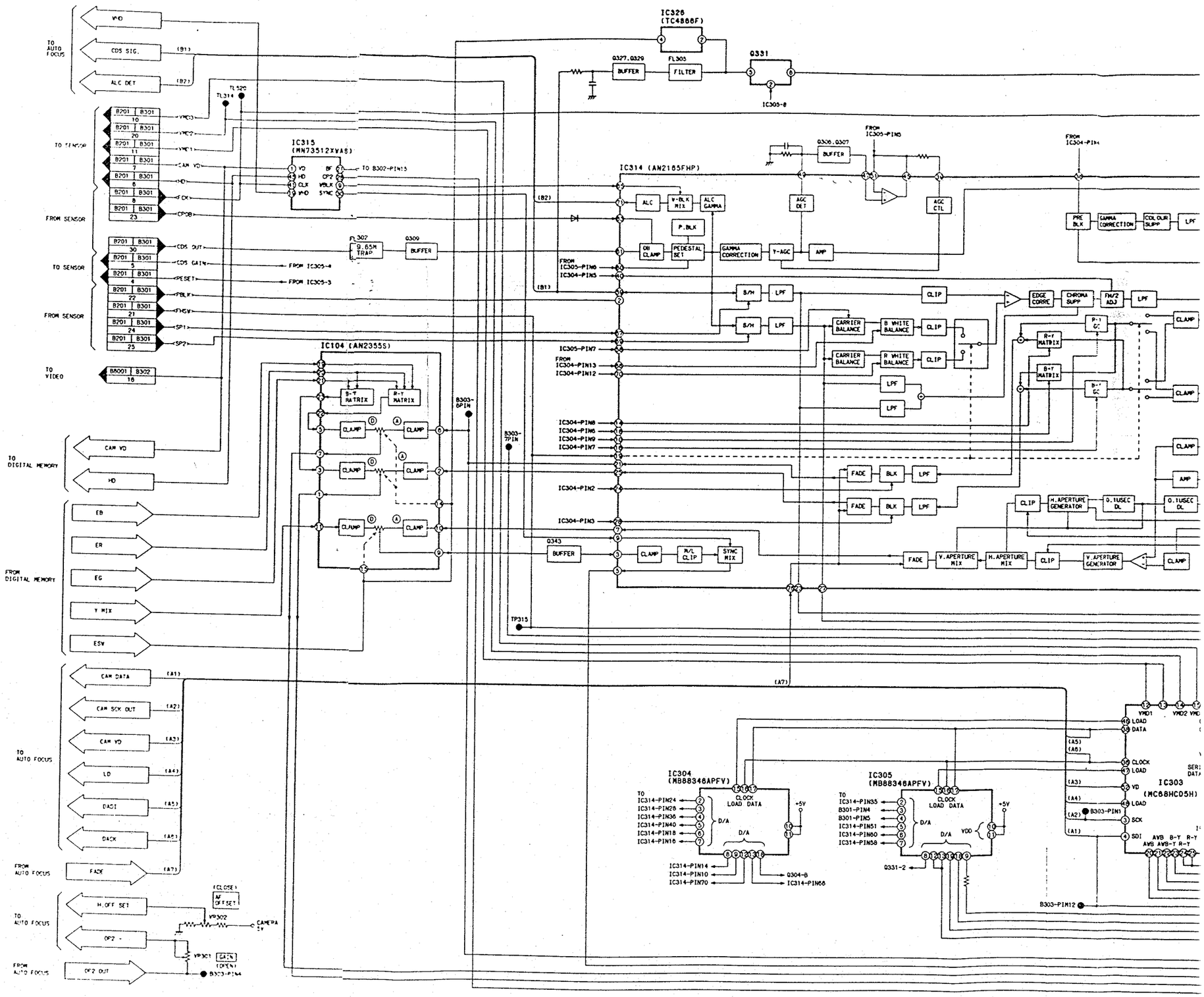
R-S TYPE FLIP-FLOP



IN	(a)	L	L	⎍
	(b)	L	⎍	L
OUT	(c)	※	L	H
	(d)	◆	H	L

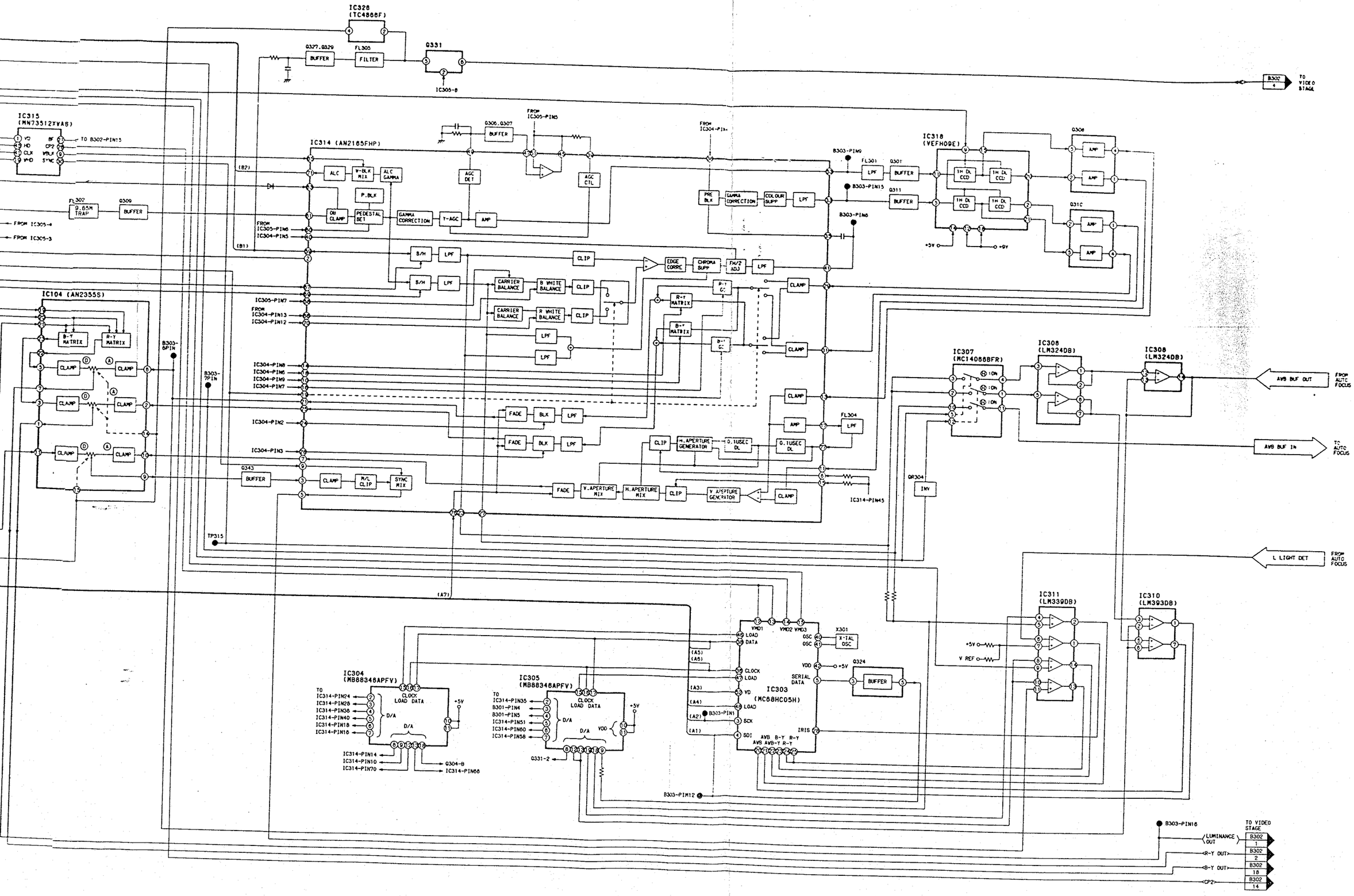
※ Initial condition is maintained.
◆ Initial condition is reversed.

Blockschaltbild des Prozeßteiles
Process Block Diagram



teiles

Blockschaltbild des Prozeßteiles
Process Block Diagram



Demontage der Platinen | Disassembly of C.B.A's

Demontageschritte Disassembly Steps	Entfernen, entriegeln, abziehen Remove, unlock, disconnect	Bemerkungen Remarks	Fig. Fig.
Rekorder-Bedienteilplatine VTR operation c.b.a	3 Schrauben (K) 3 Screws (K)		12 12
Hintere Abdeckung Rear panel unit	1 Schraube (L), 3 Schrauben (M), 1 Stecker (B 1702) 1 Screw (L), 3 Screws (M), 1 Connector (B 1702)		10,13 10,13
Kamera-Hauptplatine Camera main c.b.a.	1 Schraube (N), 4 Stecker (B 301, B 302, B 702, FP 701) 1 Screw (N), 4 Connectors (B 301, B 302, B 702, FP 701)		14 14
Hauptplatine Main c.b.a.	1 Schraube (O), 4 Stecker (FP 4002, FP 5001, FP 6001, B 6003) 1 Screw (O), 4 Connectors (FP 4002, FP 5001, FP 6001, B 6003)		15 15
Laufwerk-Verbindungsplat. und Antriebsplatine Mechanism flex. card c.b.a. and drive c.b.a.	4 Schrauben (P), 3 Schrauben (Q), 2 Stecker (P 2102, P 2103), 19 Lötstellen (R) 4 Screws (P), 3 Screws (Q) 2 Connectors (P 2102, P 2103), 19 Soldering portions (R)		16 16
Kameraeinheit Camera unit	4 Schrauben (S), 1 Stecker (B 071) 4 Screws (S), 1 Connector (B 071)		17 17
Sensorplatine Sensor c.b.a.	5 Verriegelungen (T), 2 Schrauben (U), 2 Schrauben (V), 2 Stecker (B 051, FP 203) 5 Locking tabs (T), 2 Screws (U), 2 Screws (V), 2 Connectors (B 051, FP 203)		18 18

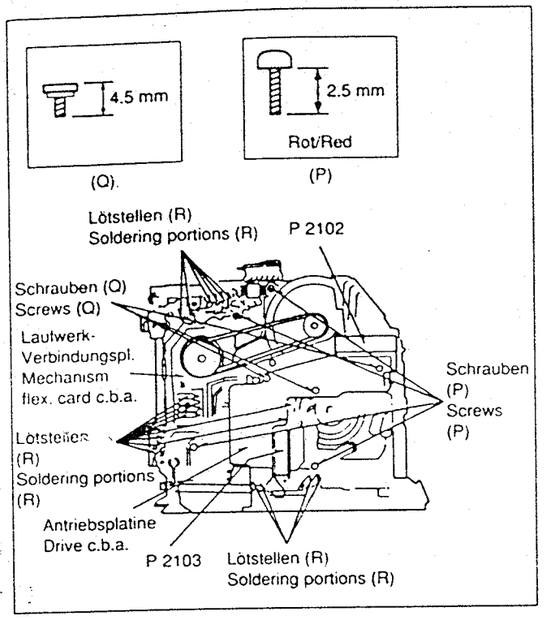


Fig. 16

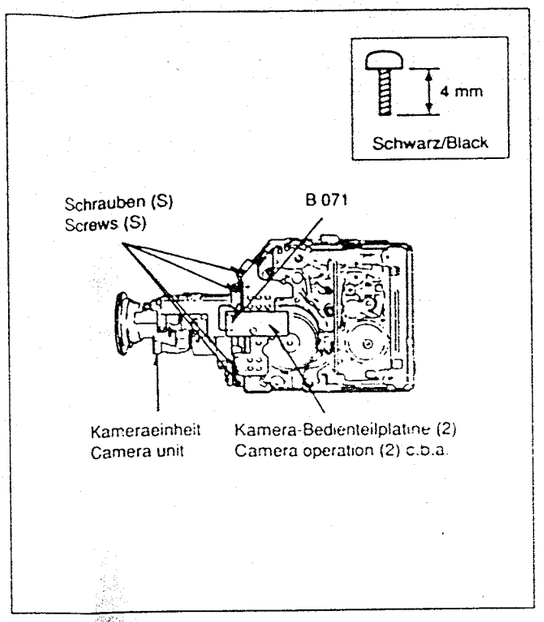
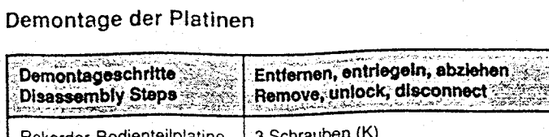


Fig. 17



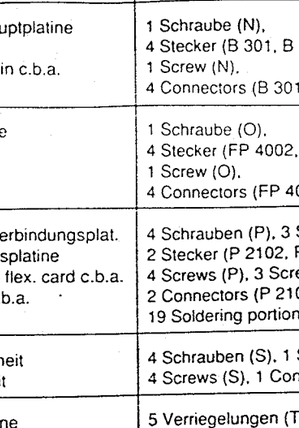


Fig. 13

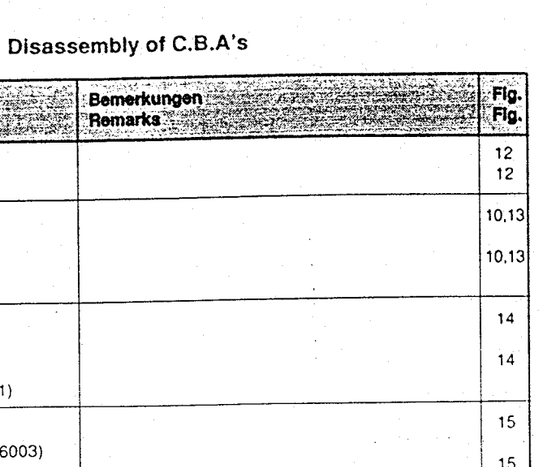


Fig. 14

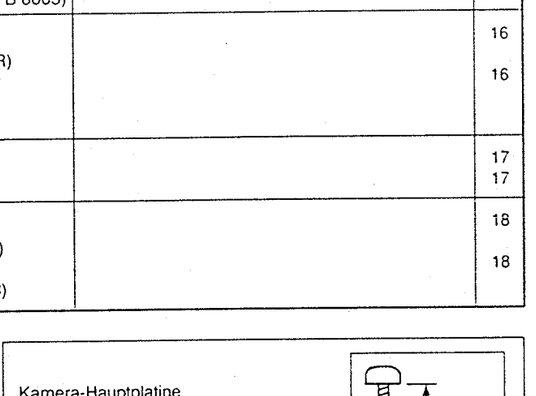


Fig. 15

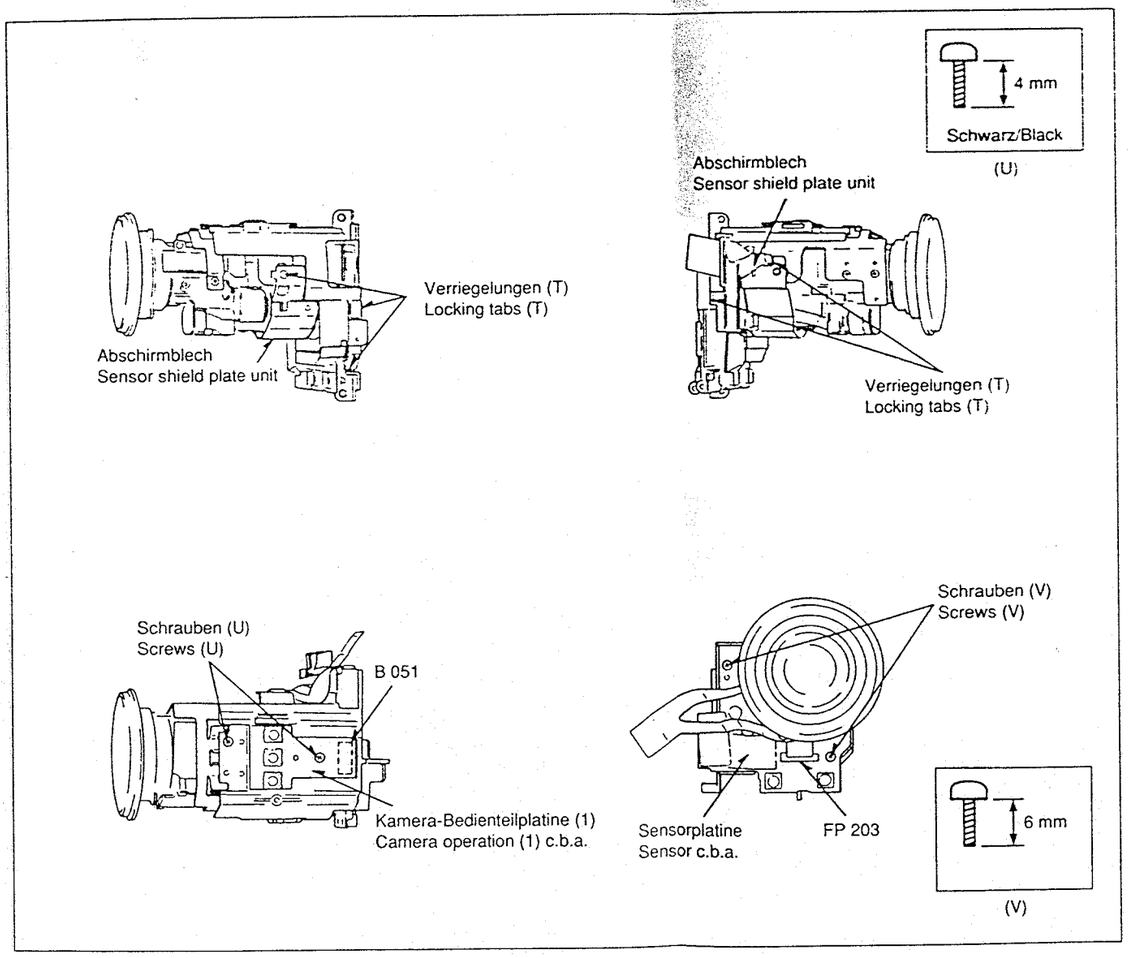


Fig. 18

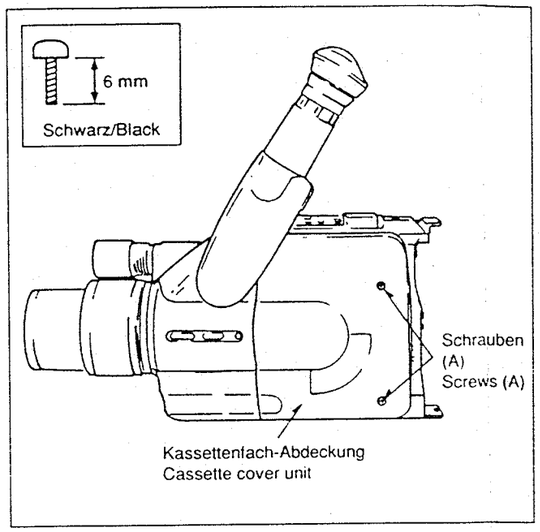


Fig. 6

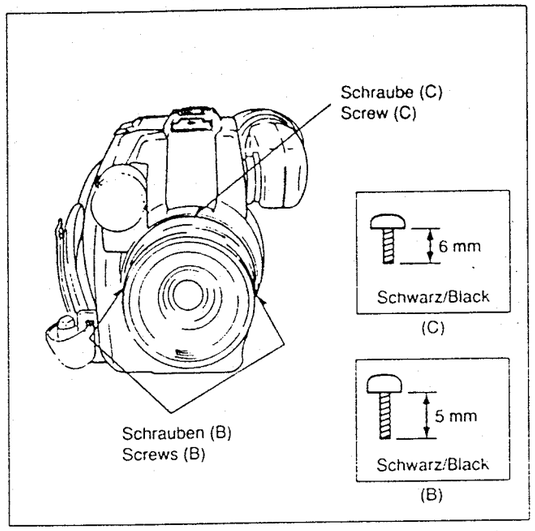


Fig. 7

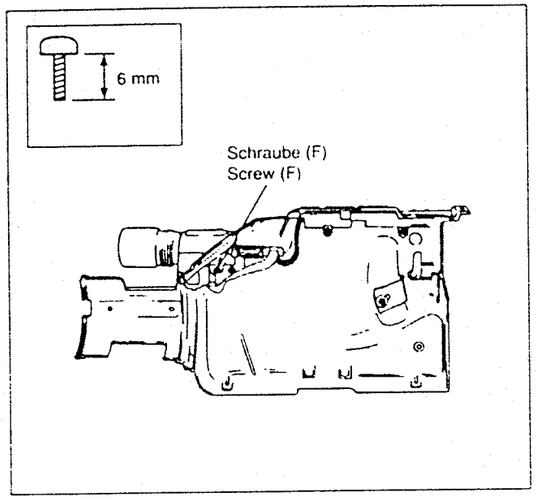


Fig. 9

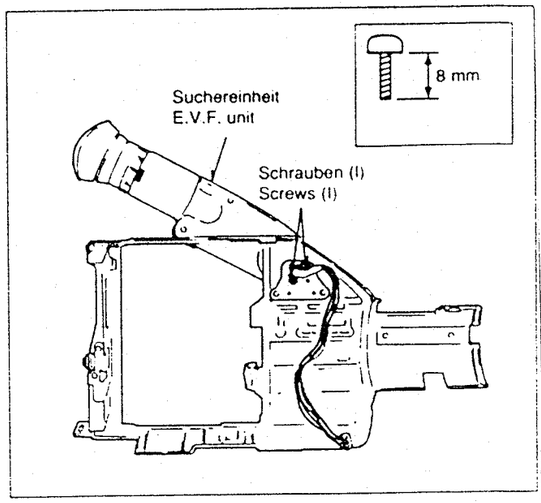


Fig. 11

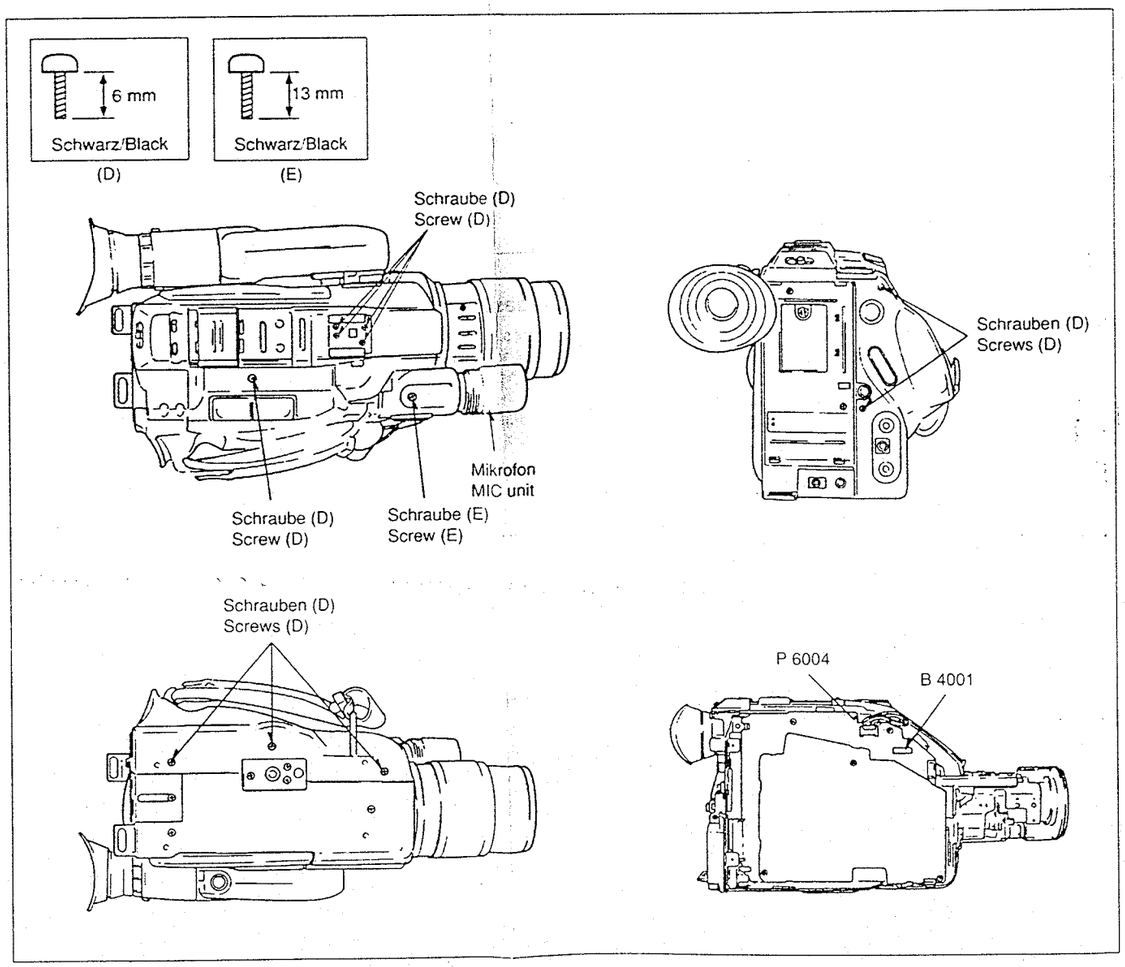


Fig. 8

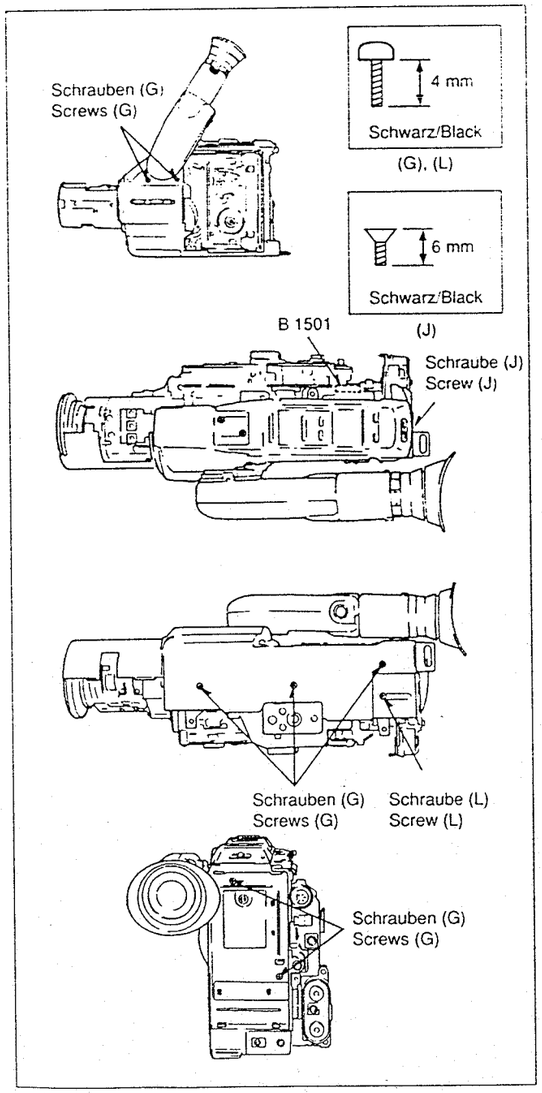


Fig. 10

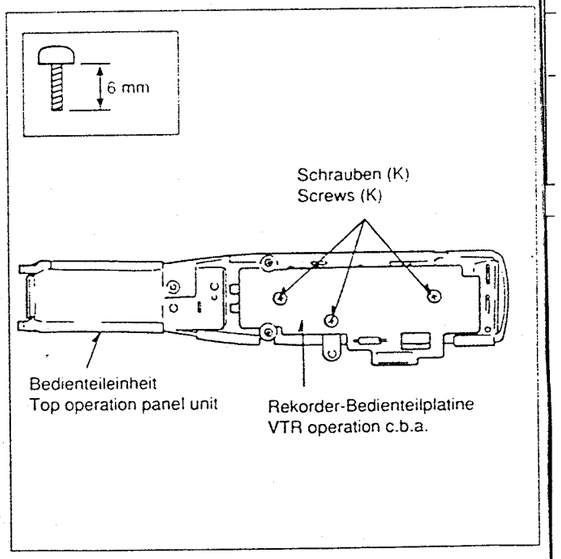
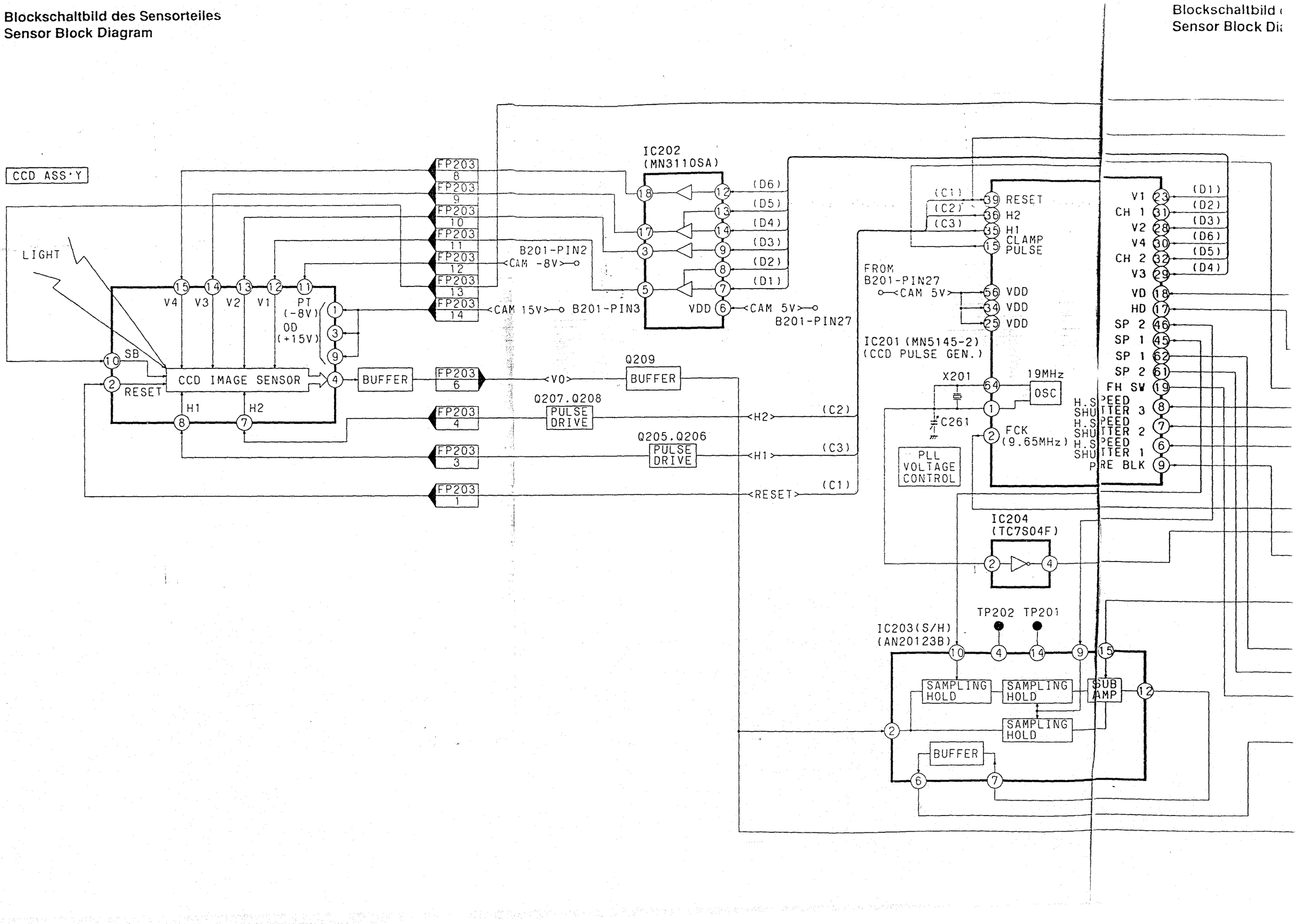
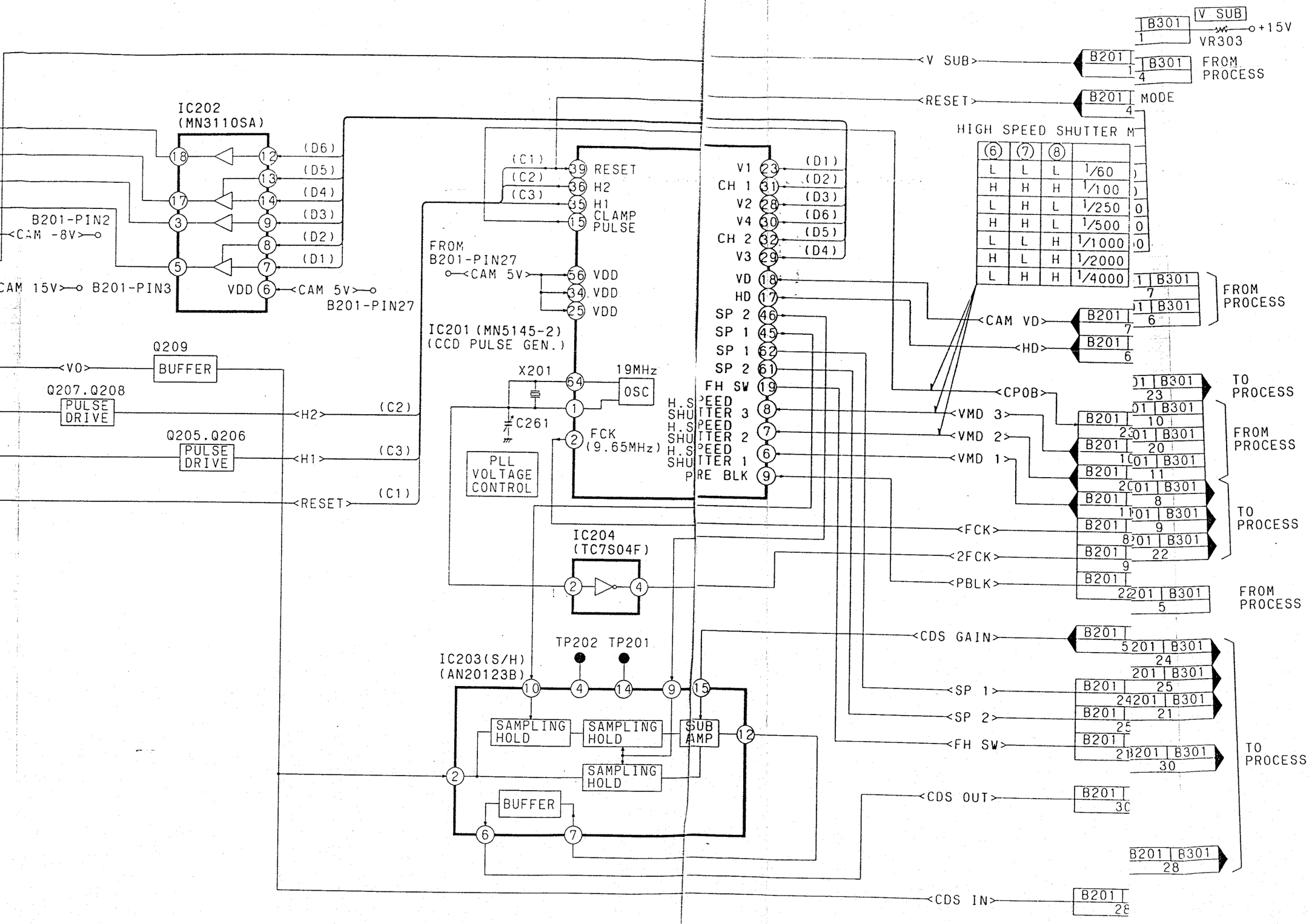


Fig. 12

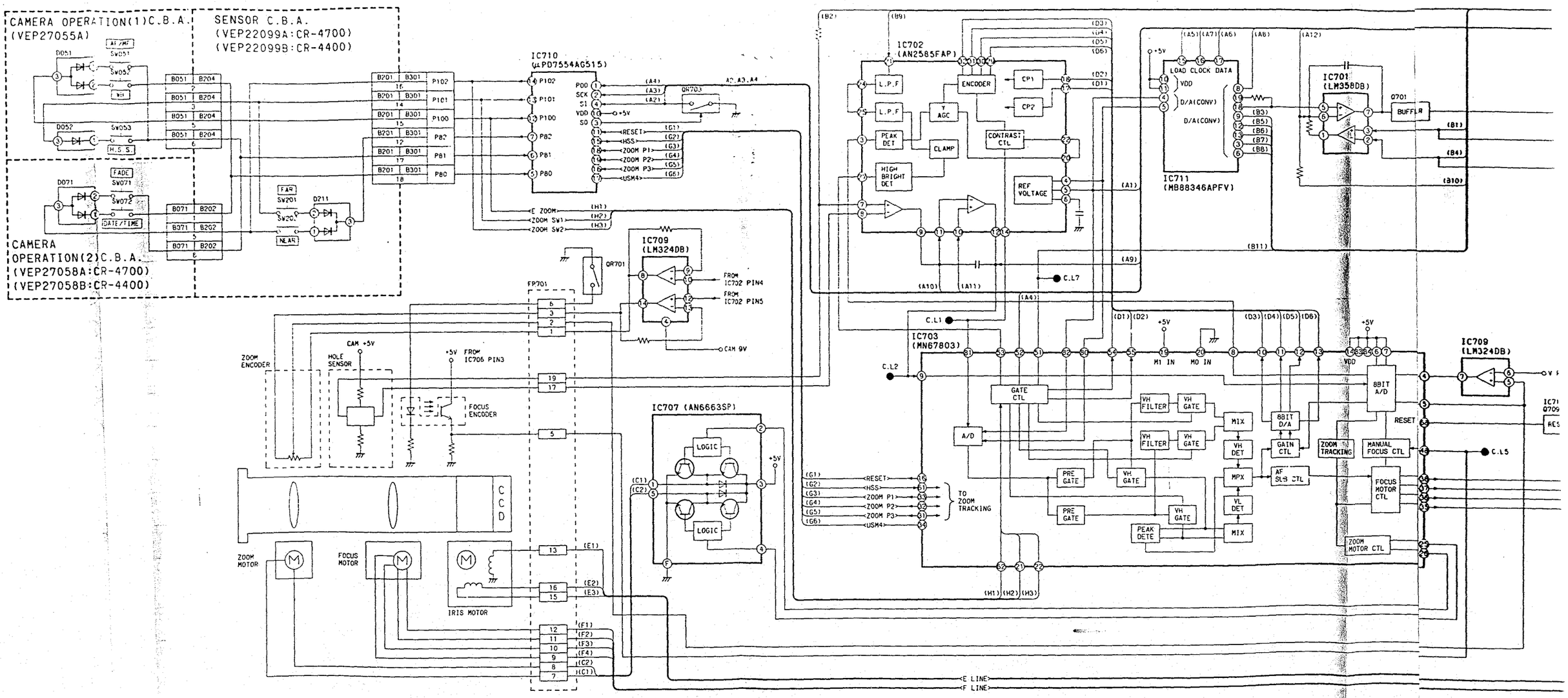
Blockschaltbild des Sensorteiles
Sensor Block Diagram



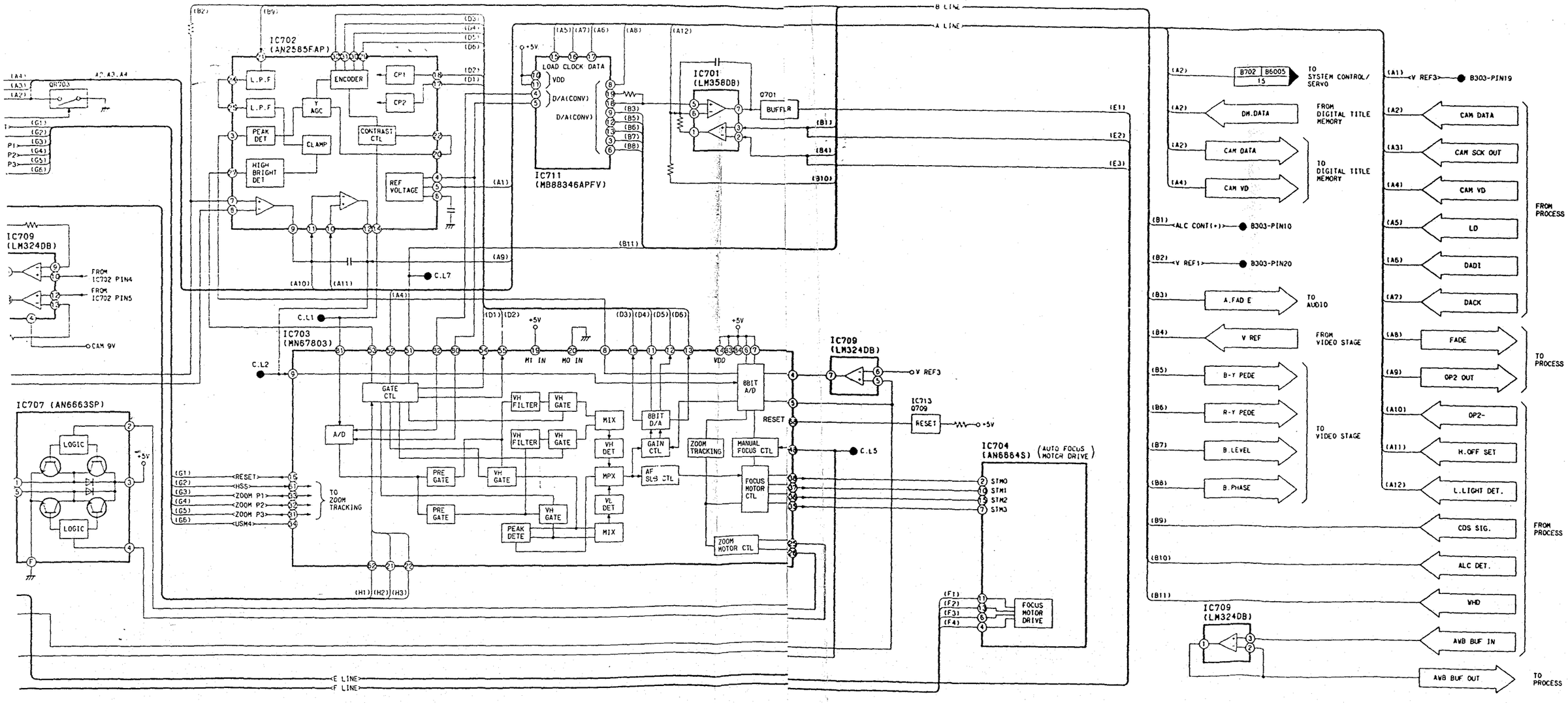
ckschaltbild des Sensorteiles
Blockschaltbild des Sensorteiles
Sensor Block Diagram



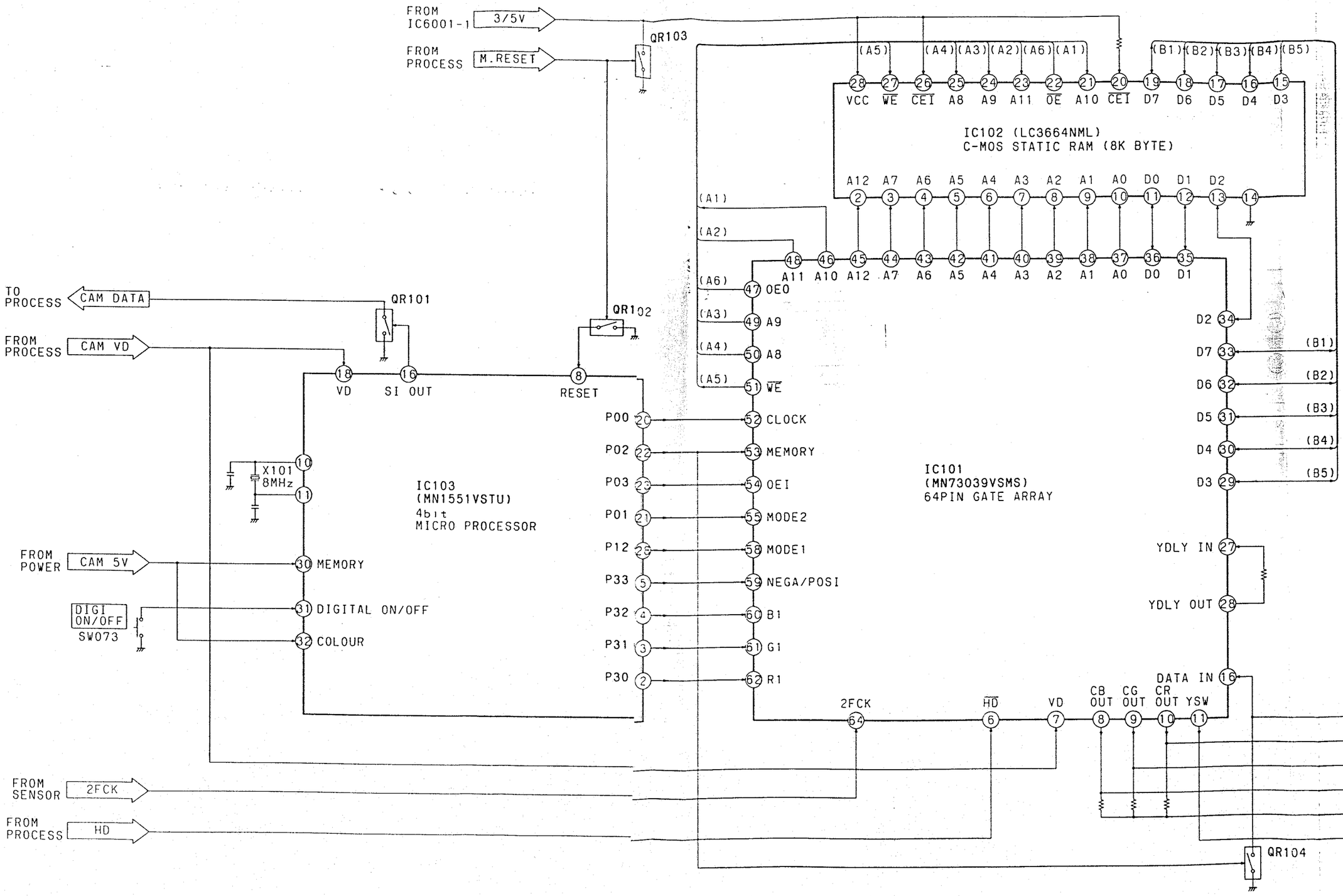
Blockschaltbild des Autofokusteiles
Auto Focus Block Diagram



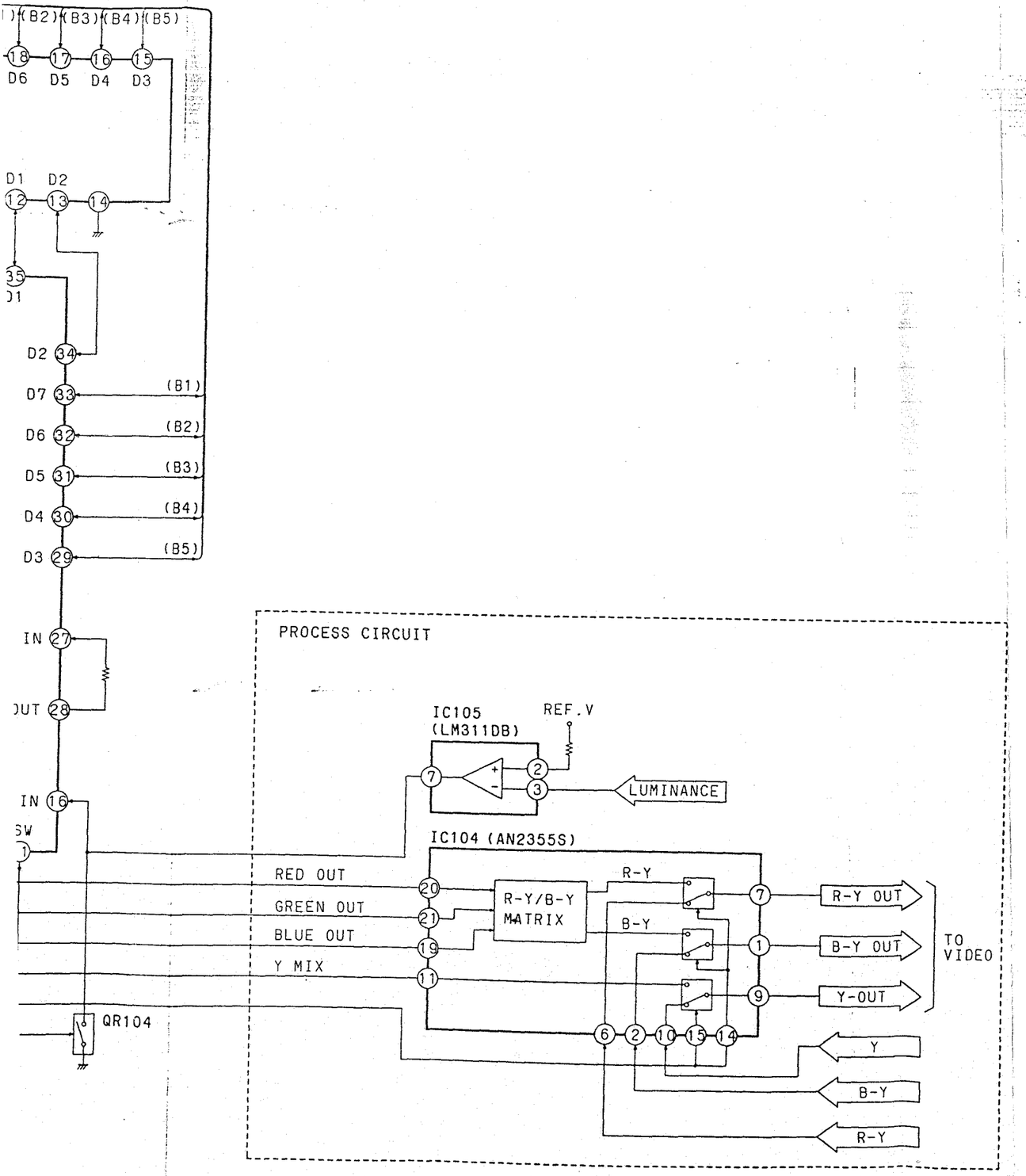
Blockschaltbild des Autofokusteiles
Auto Focus Block Diagram



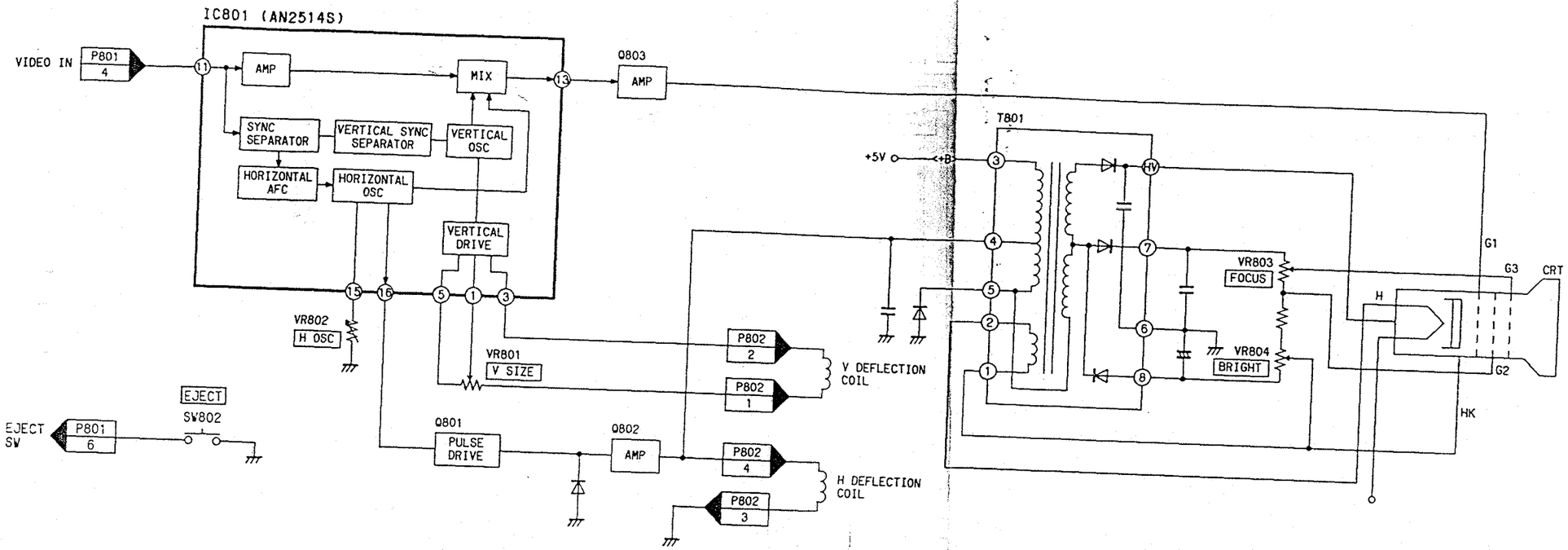
Blockschaltbild des Digitalspeichers (nur CR 4700)
Digital Memory Block Diagram (CR 4700 only)



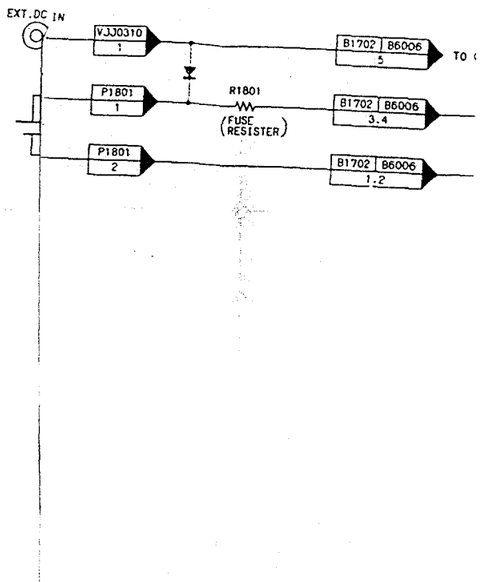
Blockschaltbild des Digitalspeichers (nur CR 4700)
Digital Memory Block Diagram (CR 4700 only)



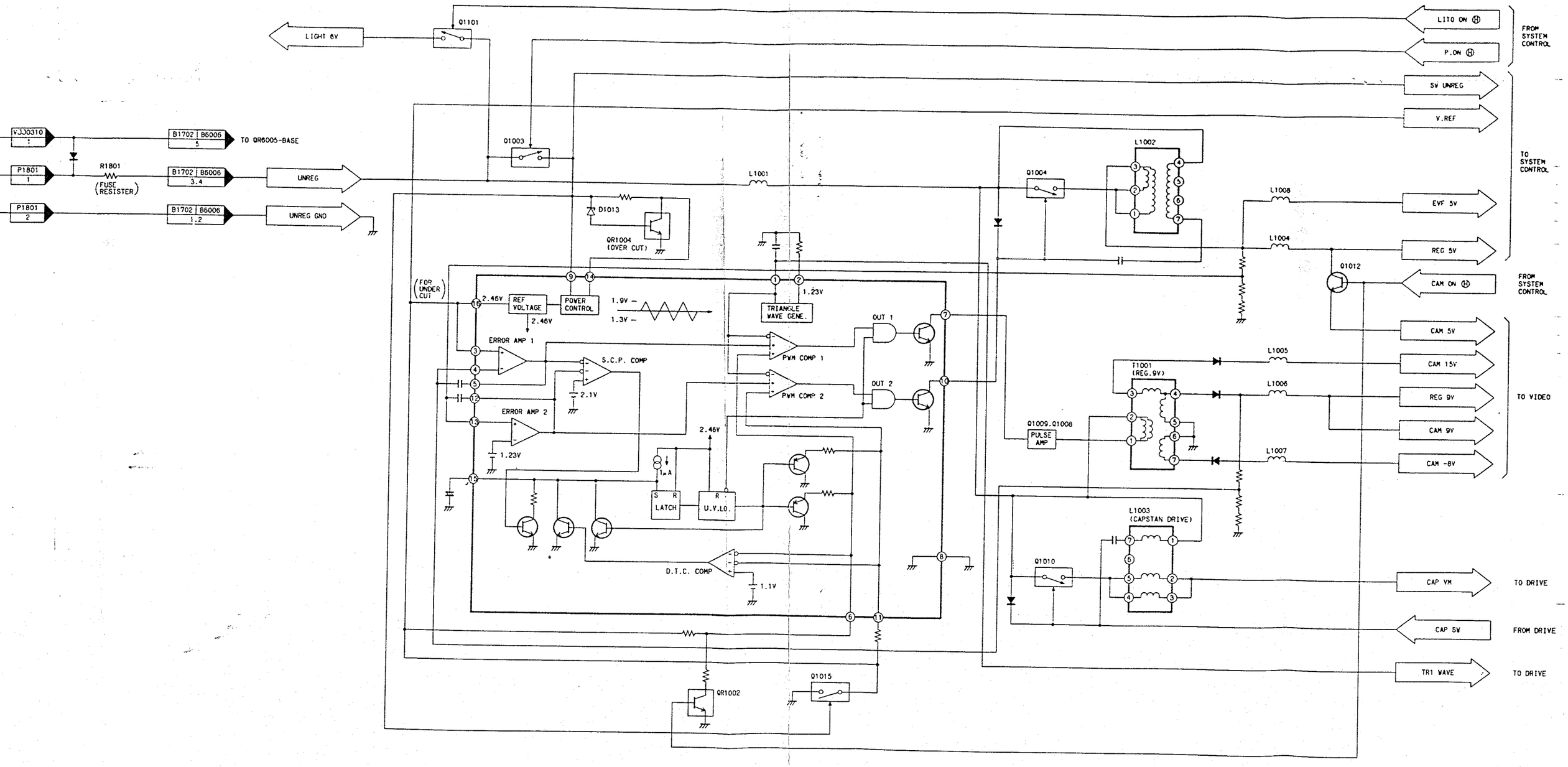
Blockschaltbild des elektronischen Suchers
E.V.F. Block Diagram



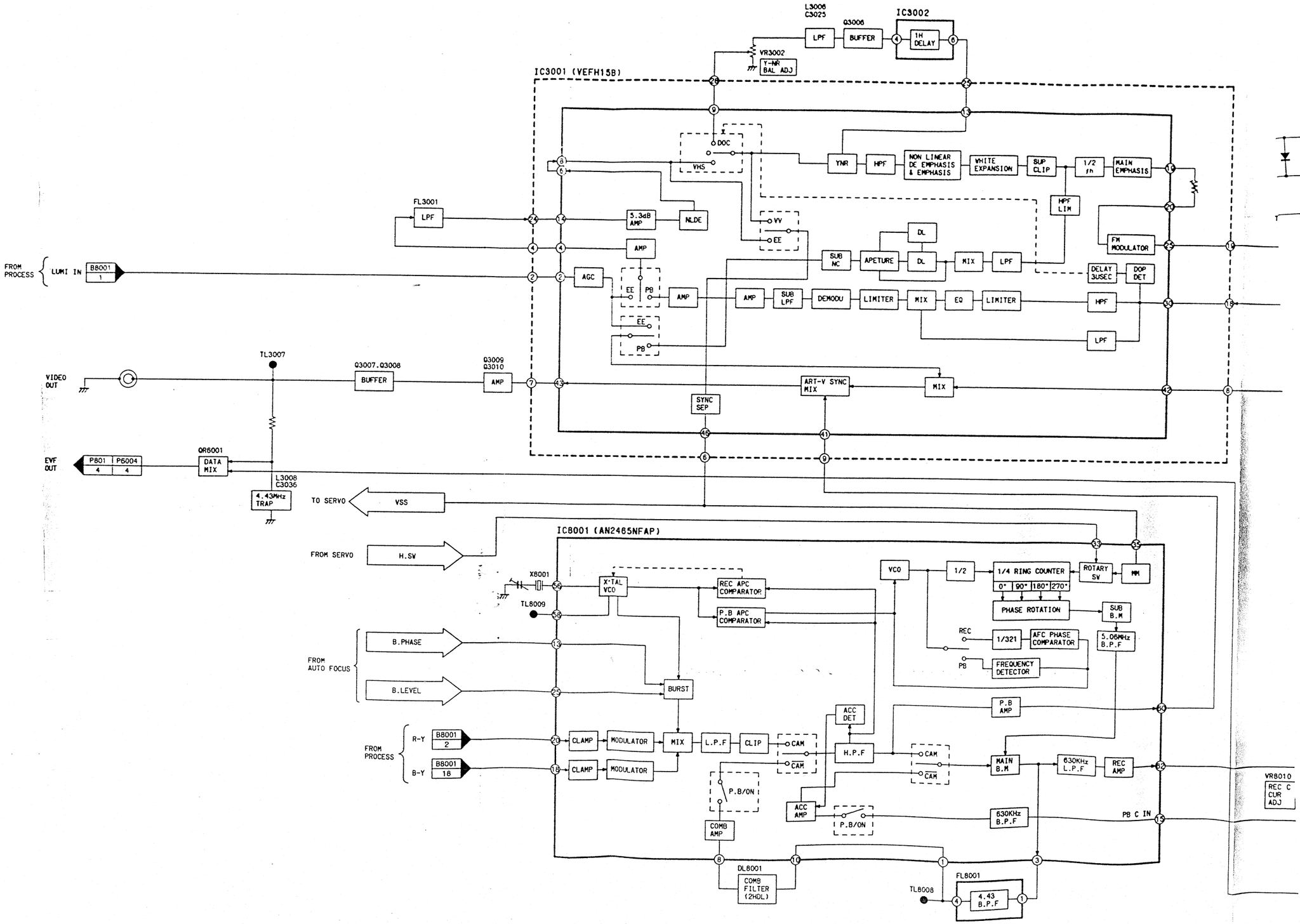
Blockschaltbild der Stromversorgung
Power Block Diagram



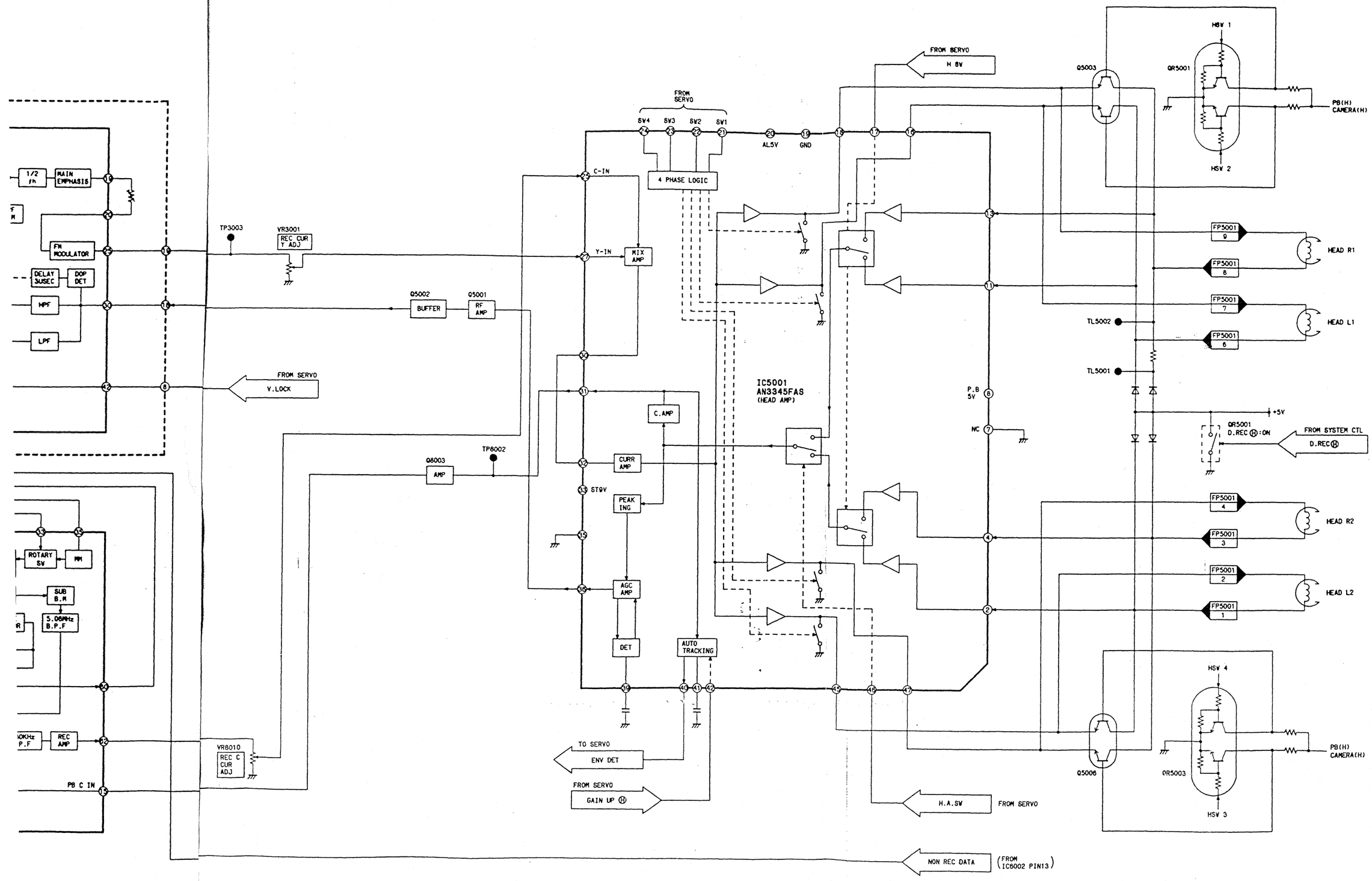
kschaltbild der Stromversorgung
r Block Diagram



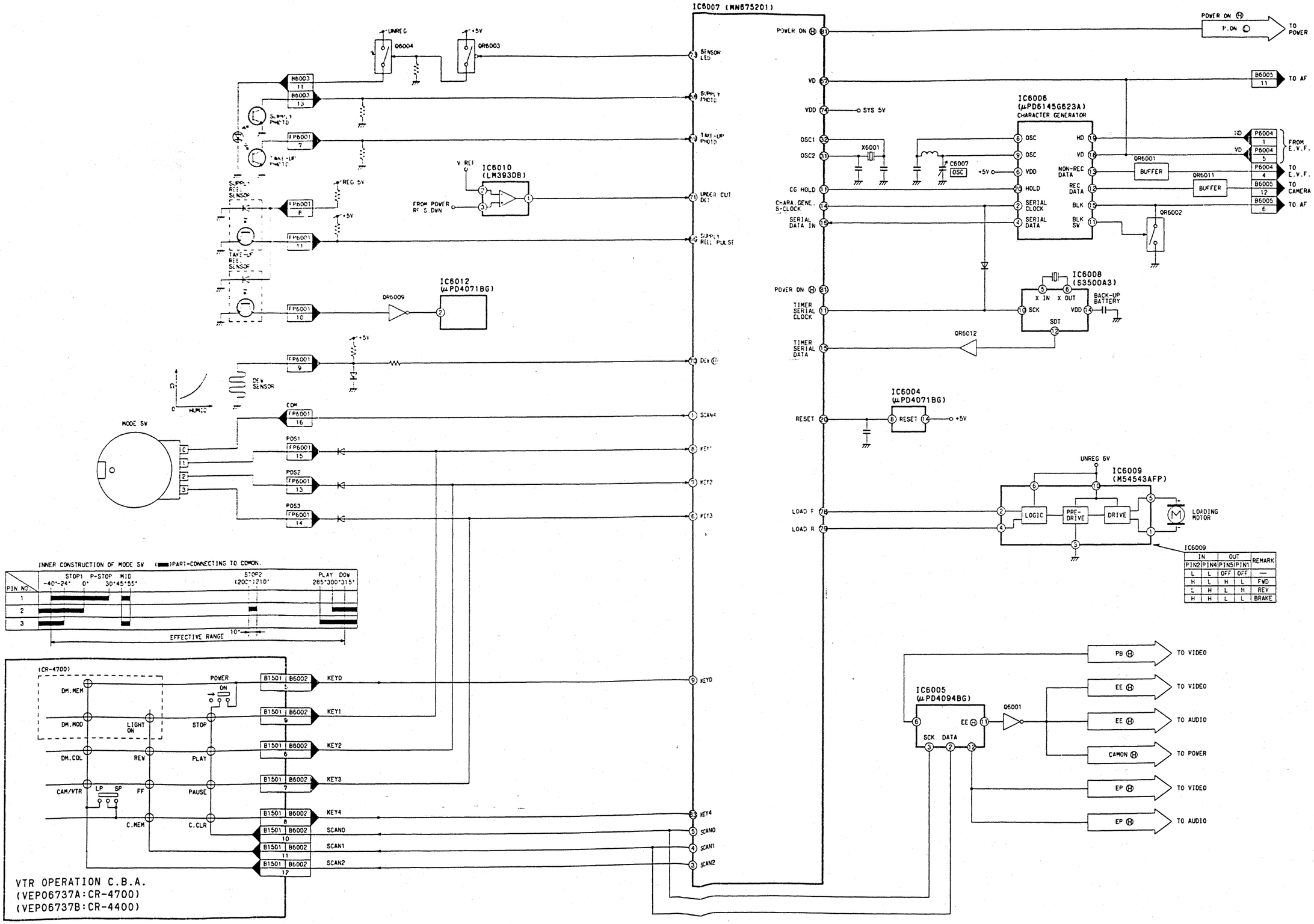
Blockschaltbild des Luminanz- und Farbteiles und des Kopfverstärkers
Luminance and Chrominance and Head Amp Block Diagram



Blockschaltbild des Luminanz- und Farbteiles und des Kopfverstärkers
Luminance and Chrominance and Head Amp Block Diagram

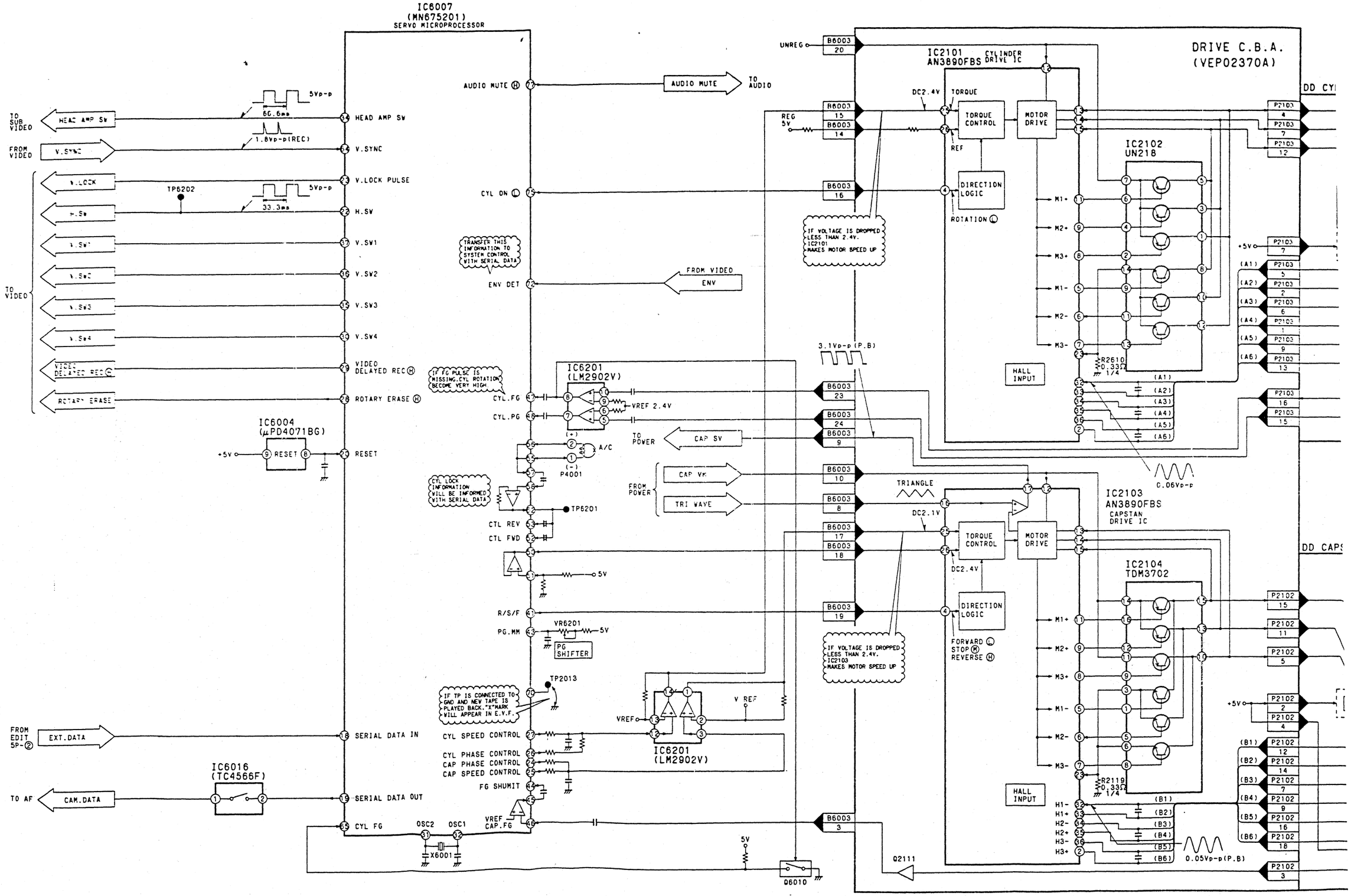


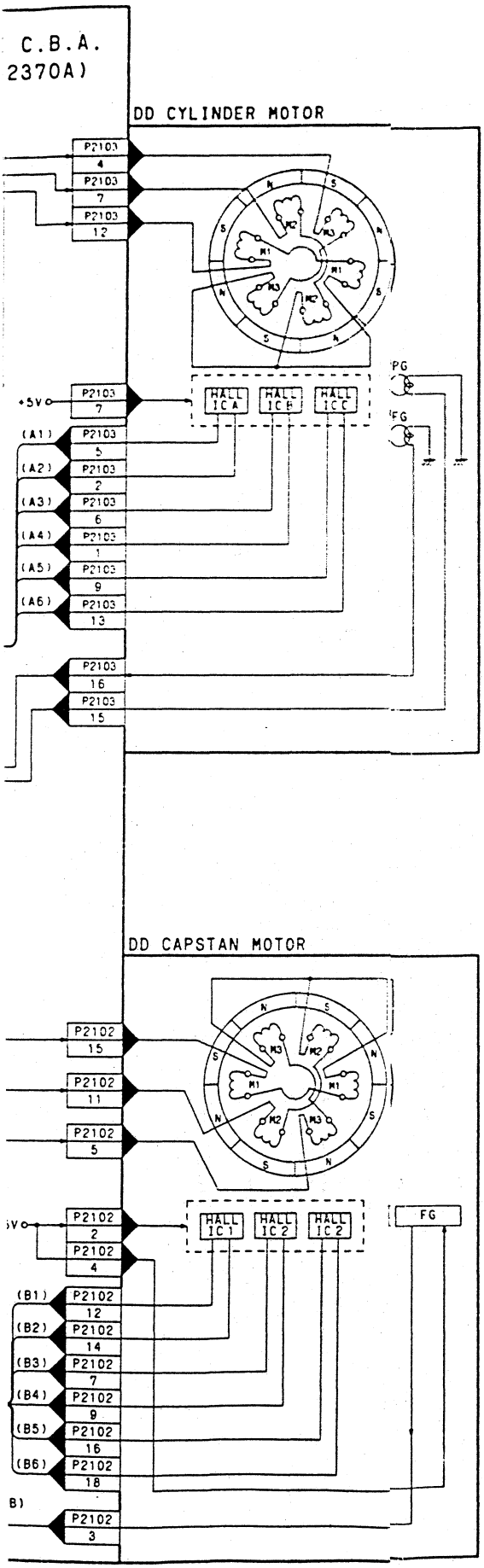
Blockschaltbild der Systemsteuerung
System Control Block Diagram



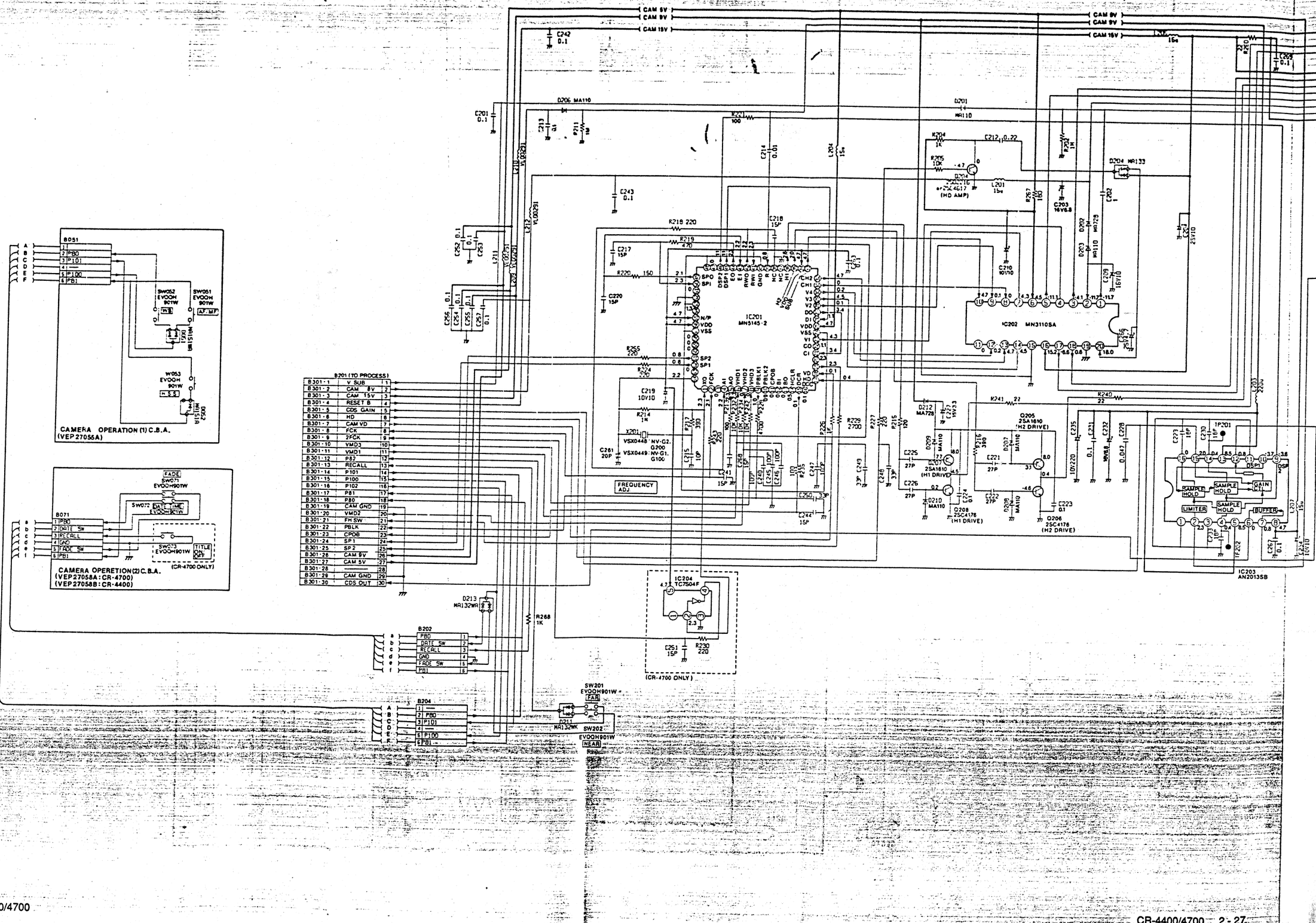
Blockschaltbild des Servoteiles
Servo Block Diagram

Blockschaltbild des Servote
Servo Block Diagram




C.B.A.
2370A)
DD CYLINDER MOTOR
P2103
4
P2103
7
P2103
12
HALL IC A
HALL IC B
HALL IC C
PG
FG
+5V
P2103
7
(A1)
P2103
5
(A2)
P2103
2
(A3)
P2103
6
(A4)
P2103
1
(A5)
P2103
9
(A6)
P2103
13
P2103
16
P2103
15
DD CAPSTAN MOTOR
P2102
15
P2102
11
P2102
5
P2102
2
P2102
4
HALL IC1
HALL IC2
HALL IC2
FG
(B1)
P2102
12
(B2)
P2102
14
(B3)
P2102
7
(B4)
P2102
9
(B5)
P2102
16
(B6)
P2102
18
P2102
3

Schaltbild des Sensorteiles
Sensor Schematic Diagram



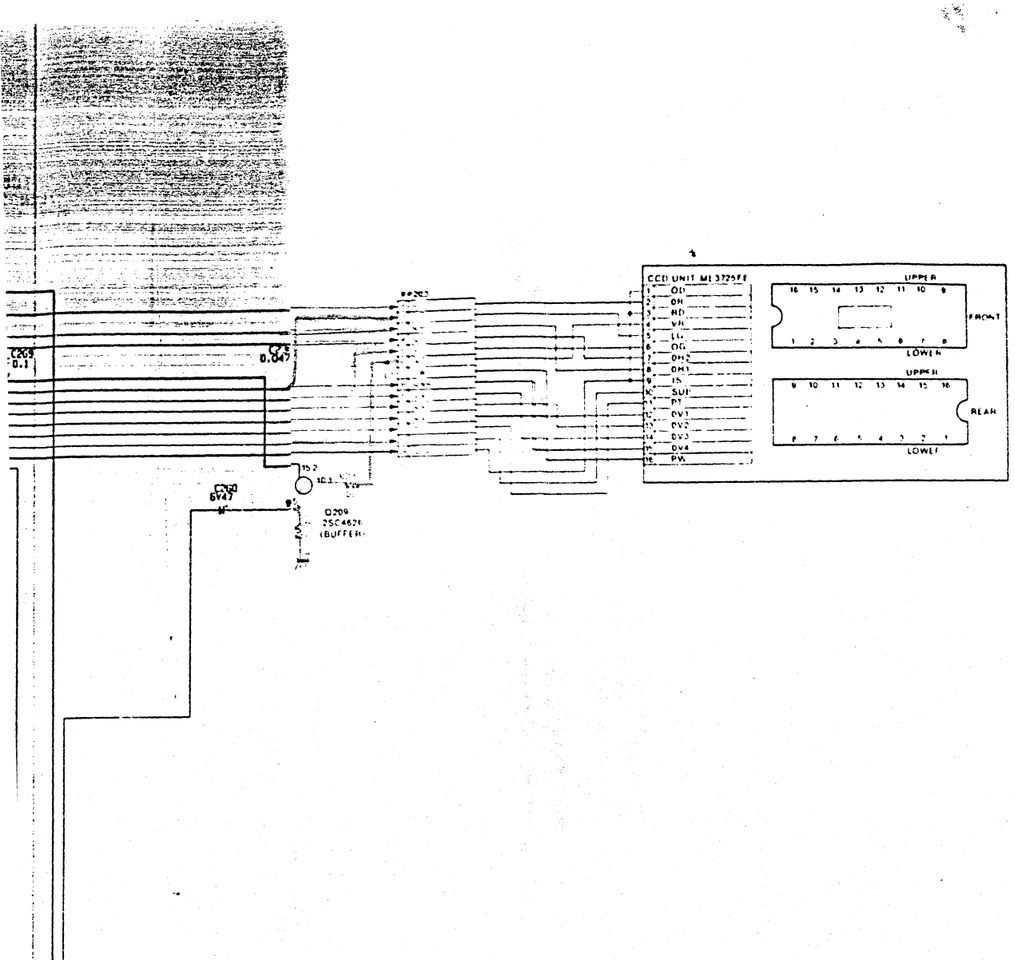
Für Werte ohne Bezeichnu
Read F (µF) or Ω respecti

Gleichspannungen Tol. ±
gemessen (Betriebsart St

DC voltages tol. ± 15 % m
GND (Stop mode).

Während der Spannungsm
auf eine logarithmische Gr

Aim the camera at the log

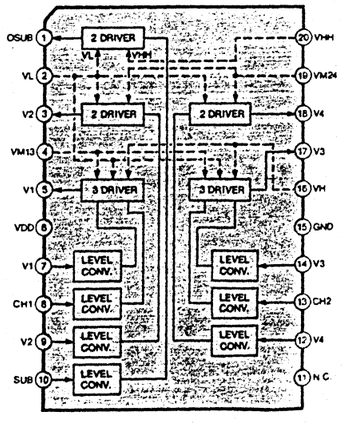


Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen (Betriebsart Stop).
DC voltages tol. ± 15 % measured with digital voltmeter against GND (Stop mode).

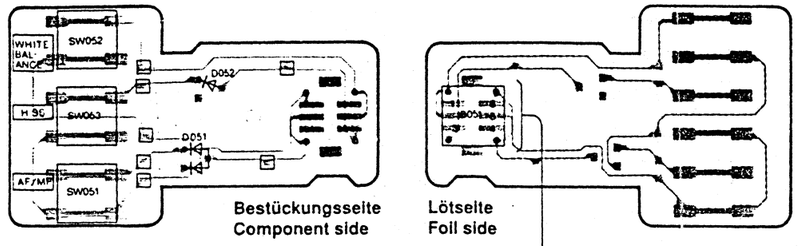
Während der Spannungsmessungen ist die Kamera auf eine logarithmische Grauskala zu richten.
Aim the camera at the logarithmic gray scale chart.

IC202 (MN3110SA)



Platine des Sensorteiles
Sensor C.B.A.

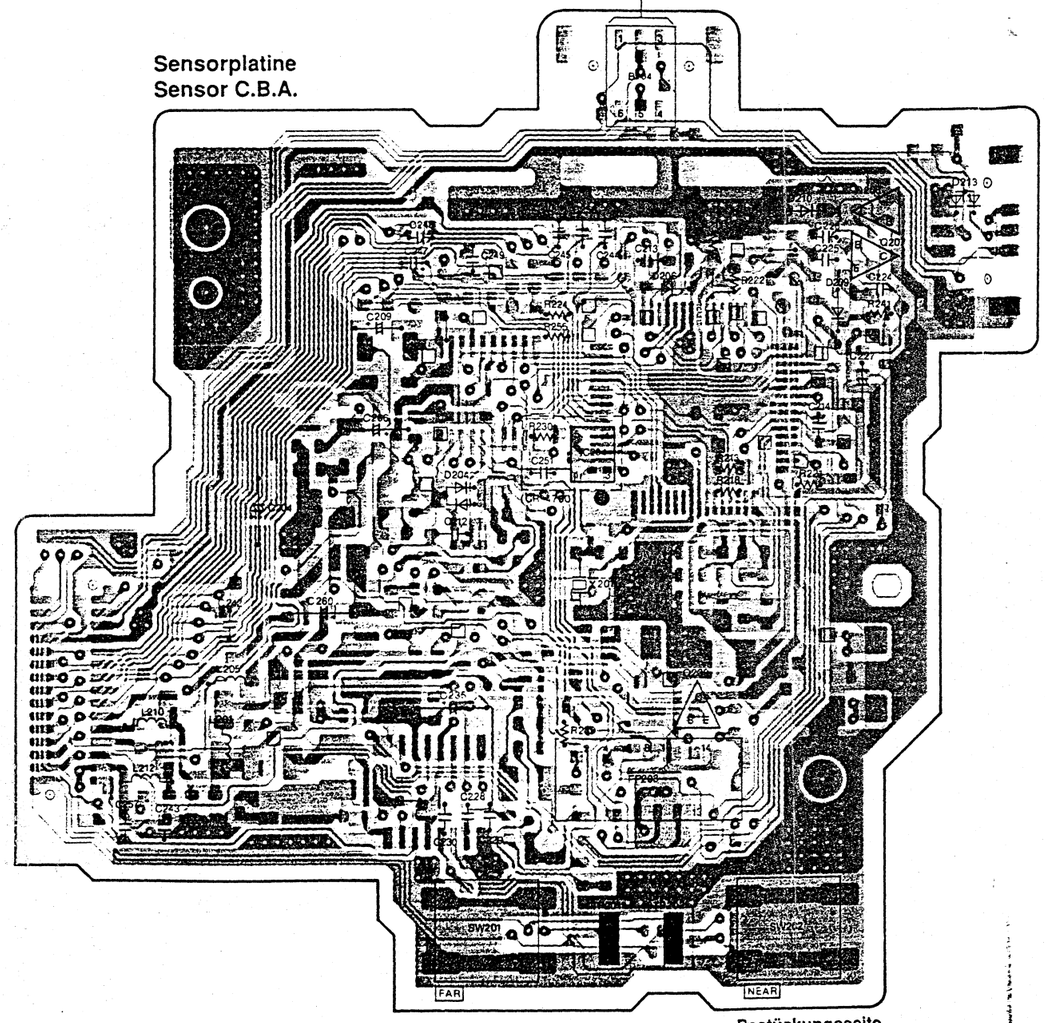
Kamera-Bedienteilplatine (1)
Camera Operation (1) C.B.A.



Bestückungsseite
Component side

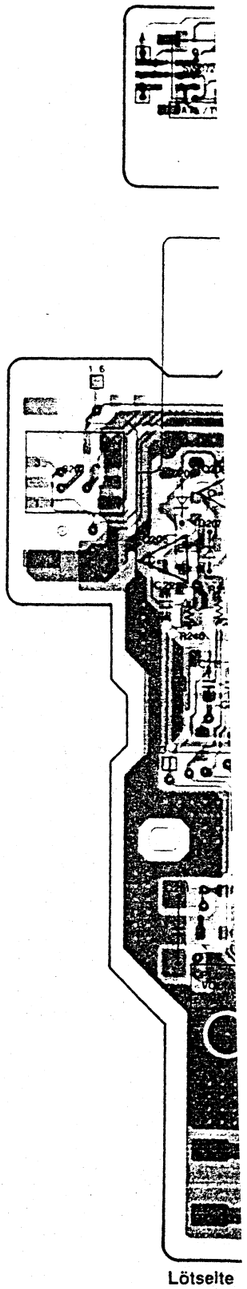
Lötseite
Foil side

Sensorplatine
Sensor C.B.A.



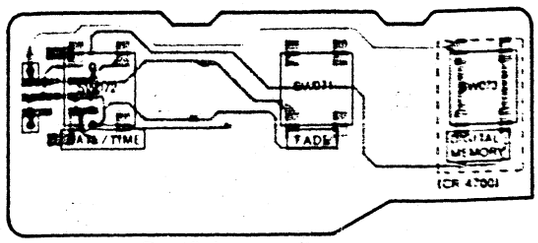
Bestückungsseite
Component side

Kamera-
Camera

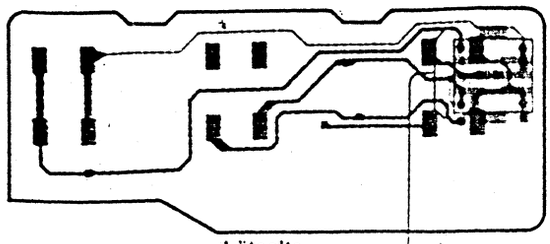


Lötseite
Foil side

Kamera-Bedienteilplatine (2)
Camera Operation (2) C.B.A.

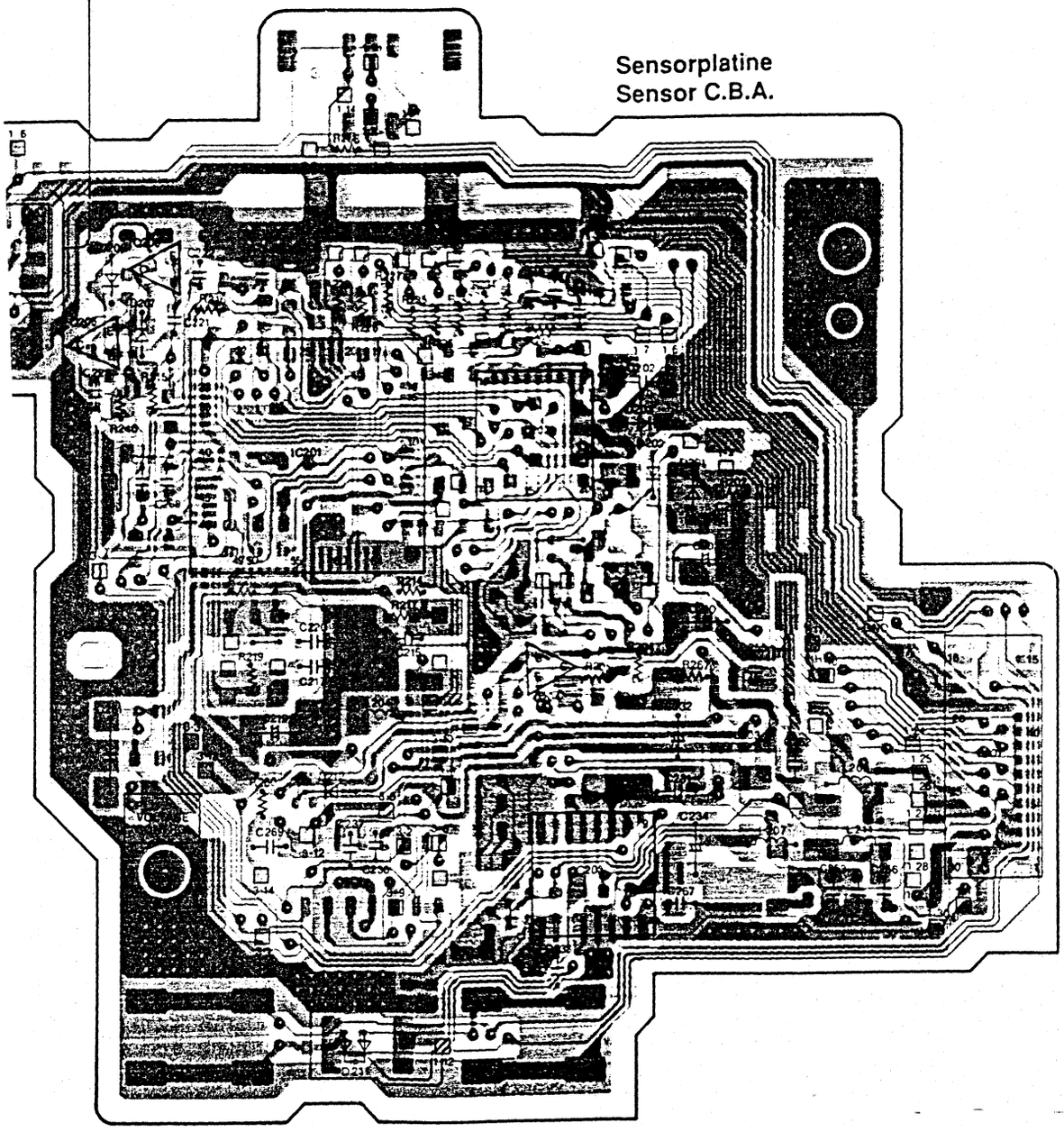


Bestückungsseite
Component side



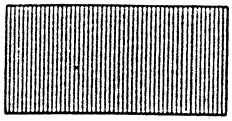
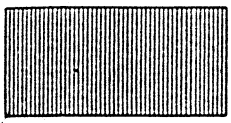
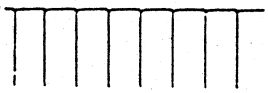
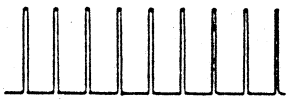
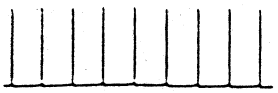
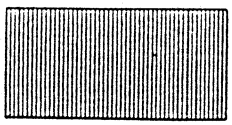
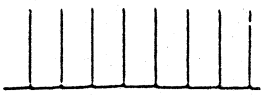
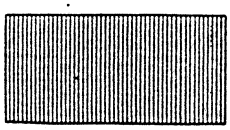
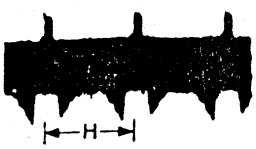
Lötseite
Foil side

Sensorplatine
Sensor C.B.A.



Lötseite
Foil side

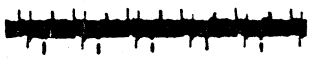
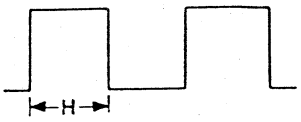
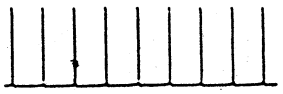
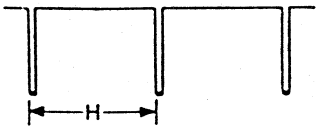
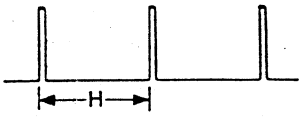
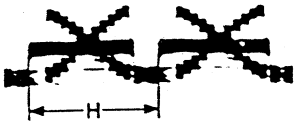
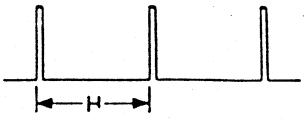
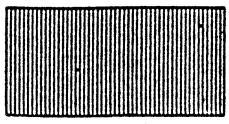
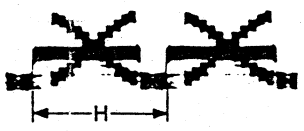
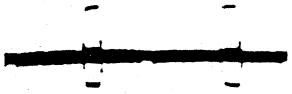
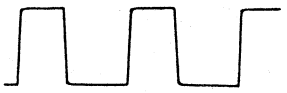
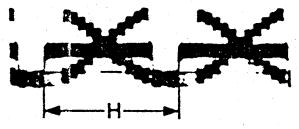
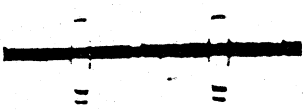
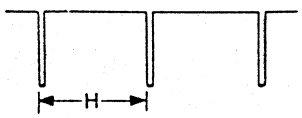
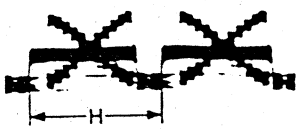
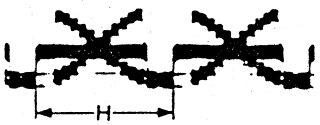
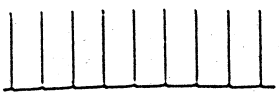
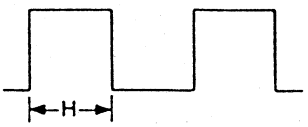
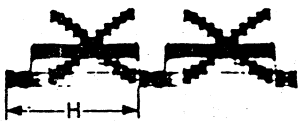
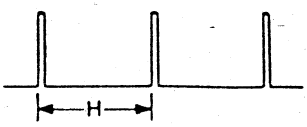
Oszillogramme des Sensorteiles (Stop mode)
Sensor Circuit Waveforms (Stop mode)

IC201-④  1.8Vp-p	IC201-㉛, ㉜ 7.0Vp-p	IC203-④ 0.6Vp-p
IC201-⑤  4.5Vp-p	IC202-③ 8.0Vp-p	IC203-⑥, ⑦, ⑫ 1.0Vp-p
IC201-⑥, ⑦, ⑧ 2.5Vp-p	IC202-⑤, ⑫ 5.0Vp-p	
IC201-㉓, ㉙  5.0Vp-p	IC202-⑦ 5.0Vp-p	
IC201-㉘, ㉚  5.0Vp-p	IC202-⑨  5.0Vp-p	
IC201-㊶, ㊷  2.5Vp-p	IC202-⑰  8.0Vp-p	
IC201-㊸, ㊾, ㊿  5.0Vp-p	IC203-②  0.7Vp-p	

Für diese Oszillogramme muß die Kamera auf eine logarithmische Grauskala gerichtet sein.

For this waveforms aim the camera at the logarithmic gray scale chart.

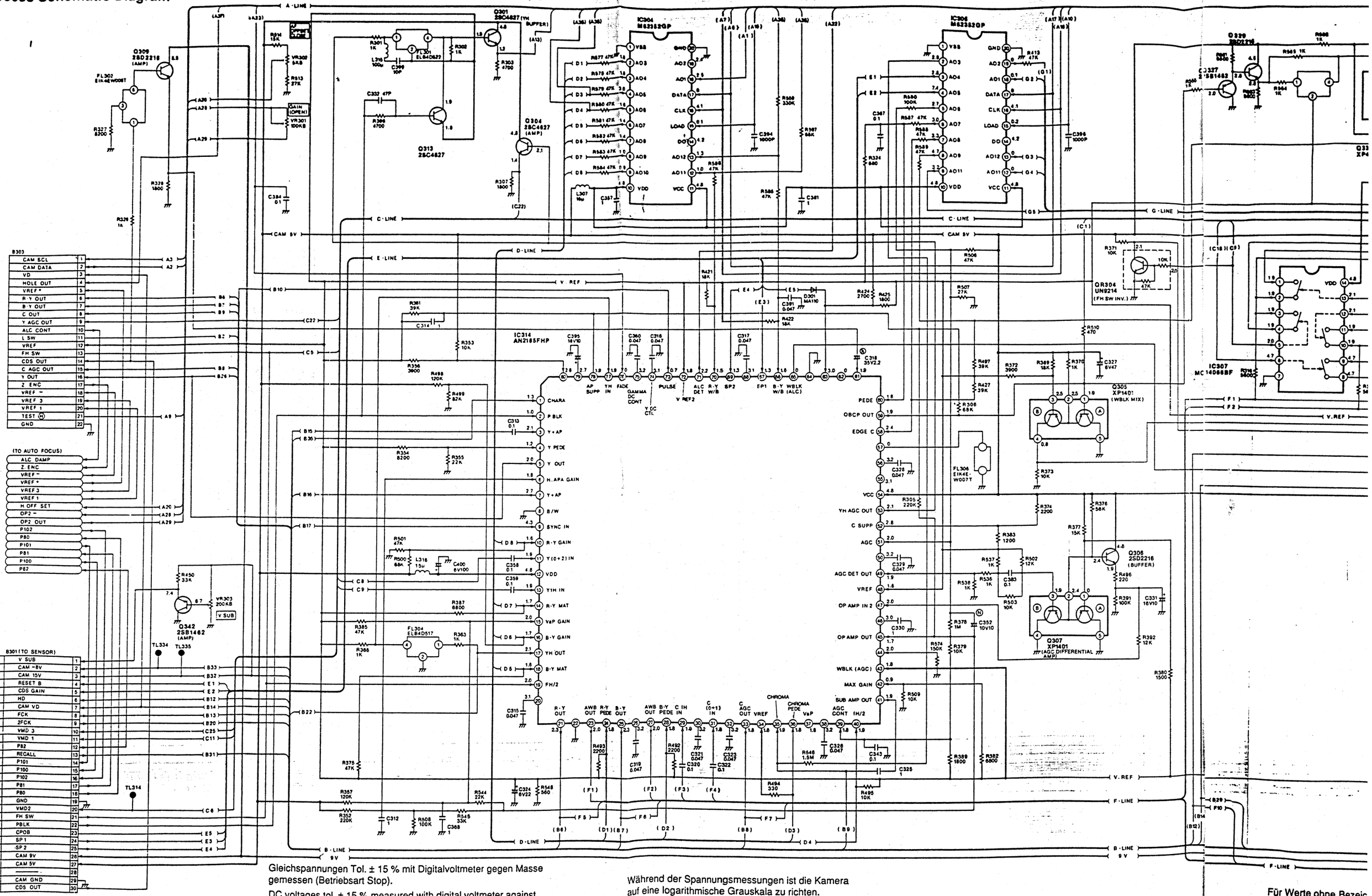
Oszillogramme des Prozeßteiles (Stop mode)
Process Circuit Waveforms (Stop mode)

IC314-①  0.4Vp-p	IC314-⑲  0.4Vp-p	IC314-㊺  0.8Vp-p	IC315-㊵  5.0Vp-p
IC314-②  5.0Vp-p	IC314-㉓  0.5Vp-p	IC314-㊸  1.1Vp-p	IC315-㊶  2.2Vp-p
IC314-③, ⑦  1.0Vp-p	IC314-㉑  0.5Vp-p	IC314-㊻  5.0Vp-p	
IC314-⑤  1.2Vp-p	IC314-㉕  0.4Vp-p	IC314-㊼, ㊾ 5.0Vp-p	
IC314-⑨  5.0Vp-p	IC314-㉗  0.5Vp-p	IC314-㊼  0.4Vp-p	
IC314-⑪, ⑬ 0.4Vp-p	IC314-㉟, ㊶  0.6Vp-p	IC315-⑨, ㉗  5.0Vp-p	
IC314-⑰  1.2Vp-p	IC314-㊹, ㊾, ㊸, ㊼, ㊾, ㊶ 0.7Vp-p	IC315-⑲, ㉑, ㉘, ㉙  5.0Vp-p	

Für diese Oszillogramme muß die Kamera auf eine logarithmische Grauskala gerichtet sein.

For this waveforms aim the camera at the logarithmic gray scale chart.

Schaltbild des Prozeßteiles
Process Schematic Diagram

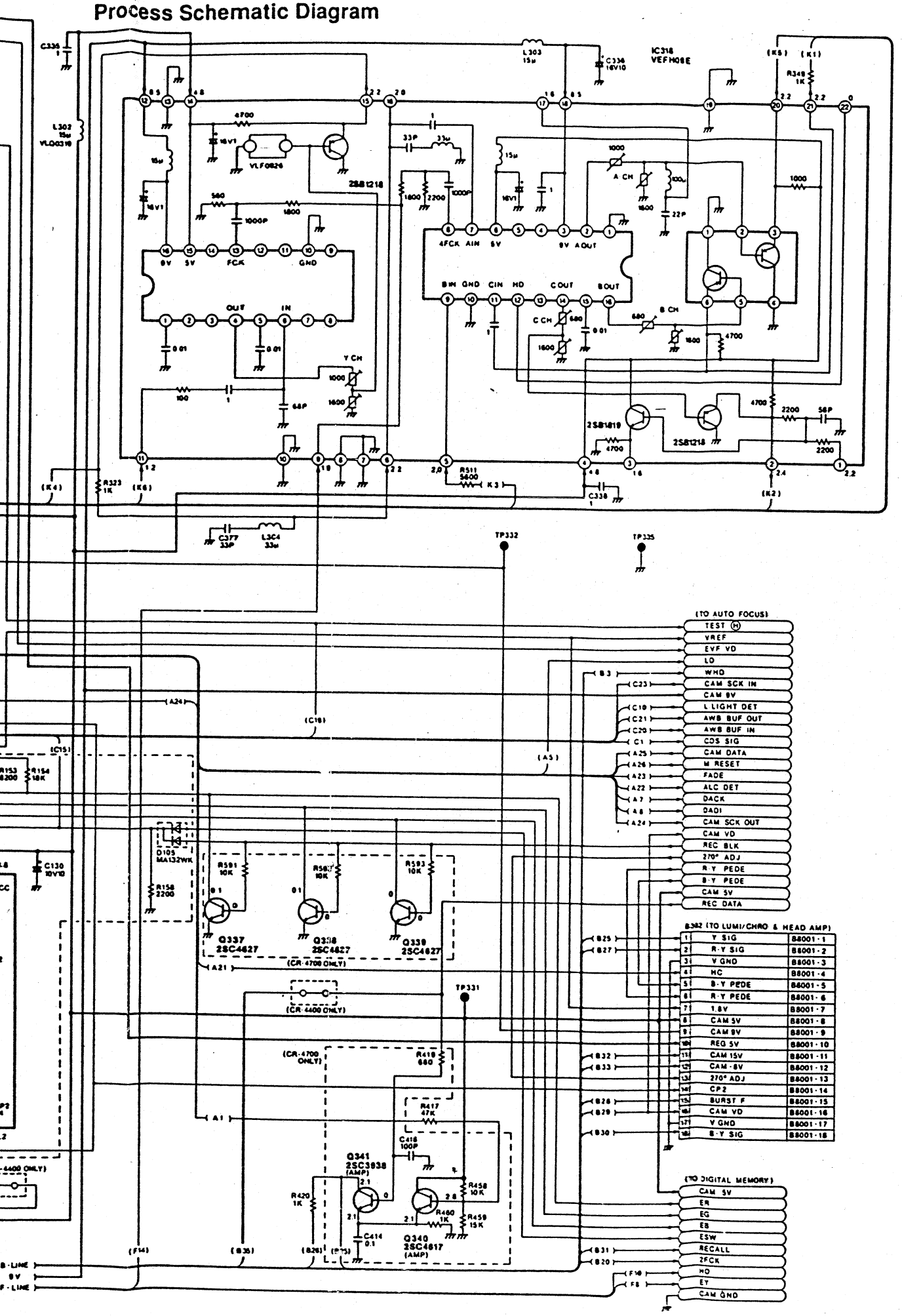

A-LINE
C-LINE
CAM 8V
D-LINE
E-LINE
V. REF
G-LINE
F-LINE
B-LINE
9V
Q309 2SD2216 (AMP)
Q313 2SC4627
Q301 2SC4627 (YH BUFFER)
Q304 2SC4627 (AMP)
Q342 2SB1462 (AMP)
Q329 2SD2216
Q327 2SB1462
Q306 2SD2216 (BUFFER)
Q307 XP1401 (AGC DIFFERENTIAL AMP)
Q305 XP1401 (WBLK MIX)
QR304 UN9214 (FH SW INV.)
IC304 M62352GP
IC306 M62352GP
IC314 AN2185FHP
IC307 MC14066BF
B303
B301 (TO SENSOR)
(TO AUTO FOCUS)
CAM SCL
CAM DATA
VD
HOLE OUT
VREF *
R-Y OUT
B-Y OUT
C OUT
Y AGC OUT
ALC CONT
L SW
VREF
FH SW
CDS OUT
C AGC OUT
Y OUT
Z ENC
VREF −
VREF 3
VREF 1
TEST
GND
ALC DAMP
Z ENC
VREF −
VREF *
VREF 3
VREF 1
H OFF SET
OP2 −
OP2 OUT
P102
P80
P101
P81
P100
P82
V SUB
CAM −8V
CAM 15V
RESET B
CDS GAIN
HD
CAM VD
FCK
2FCK
VMD 3
VMD 1
P82
RECALL
P101
P100
P102
P81
P80
GND
VMD2
FH SW
PBLK
CPOB
SP 1
SP 2
CAM 9V
CAM 5V
CAM GND
CDS OUT
CHARA
P BLK
Y+AP
Y PEDE
Y OUT
H.APA GAIN
Y+AP
B/W
SYNC IN
R-Y GAIN
Y(0+2)IN
VDD
Y1H IN
R-Y MAT
VaP GAIN
B-Y GAIN
YH OUT
B-Y MAT
FH/2
R-Y OUT
AWB R-Y PEDE
B-Y OUT
AWB B-Y PEDE
C 1H IN
C (0+1) IN
C AGC OUT
VREF
CHROMA PEDE
VaP
AGC CONT
FH/2
SUB AMP OUT
AP SUPP
YH IN
FADE GAMMA DC CONT
Y DC CTL
PULSE
V REF2
ALC DET
R-Y W/B
SP2
EP1
B-Y W/B (ALC)
WBLK W/B (ALC)
PEDE
OBCP OUT
EDGE C
VCC
YH AGC OUT
C SUPP
AGC
AGC DET OUT
VREF
OP AMP IN 2
OP AMP OUT
WBLK (AGC)
MAX GAIN
SUB AMP OUT
FL301 EL640827
FL302 EIK4E-W008T
FL303 EIK4E-W008T
FL304 ELB4D517
FL306 EIK4E-W007T
TL334
TL335
TL314
VR303 200KB
V SUB
VR305 5KB
VR306 5KB
VR307 100KB
GAIN (OPEN)
R301 1K
L316 100u
C399 10P
R302 1K
R303 4700
C332 47P
R306 4700
R307 1800
L307 10u
C357 1
C384 0.1
R328 1800
R329 1A
R334 15K
R313 27K
R327 8200
R450 33K
R385 47K
R366 1K
R363 1K
R387 6800
R375 47K
R361 39K
C314 1
R353 10K
R356 3600
R498 120K
R499 82K
R354 8200
R355 22K
C313 0.1
R501 47K
R500 68K
L316 15u
C400 6V100
C358 0.1
C359 0.1
R421 18K
R422 18K
C361 0.047
D301 MA110
R424 2700
R425 1800
R507 27K
R506 47K
R510 470
R497 39K
R427 39K
R306 68K
R372 3900
R369 18K
R370 1K
C327 6V47
R373 10K
R376 56K
R377 15K
R374 2200
R383 1200
R537 1K
R502 12K
R536 1K
C383 0.1
R503 10K
R496 220
R391 100K
C331 16V10
R392 12K
R380 1500
R378 1M
C352 10V10
R574 150K
R379 10K
R509 10K
R389 1800
R382 6800
R495 10K
R494 330
R548 1.5M
C326 0.047
C343 0.1
C325 1
R305 220K
R586 47K
R587 68K
R588 47K
R589 47K
R590 100K
R587 47K
R324 680
C367 0.1
C394 1000P
C396 1000P
R413 47K
R965 1K
R966 1K
R964 1K
R965 1K
C395 16V10
C318 35V2.2
C360 0.047
C316 0.047
C317 0.047
C315 0.047
C319 0.047
C321 0.047
C322 0.047
C323 0.047
C328 0.047
C329 0.047
C324 6V22
R548 560
R544 22K
R545 33K
C368 1
R508 100K
C312 1
R352 220K
R357 120K
R375 47K
R493 2200
R492 2200
C320 0.1
R494 330
R495 10K
R546 1.5M
C325 1
R343 0.1
R326 0.047
R509 10K
R380 1500
R389 1800
R382 6800
R391 100K
R392 12K
R331 16V10
R496 220
R503 10K
R536 1K
R537 1K
R502 12K
R383 1200
R374 2200
R376 56K
R377 15K
R373 10K
R369 18K
R370 1K
C327 6V47
R510 470
R497 39K
R427 39K
R306 68K
R372 3900
R371 10K
R507 27K
R506 47K
R421 18K
R422 18K
C361 0.047
D301 MA110
R424 2700
R425 1800

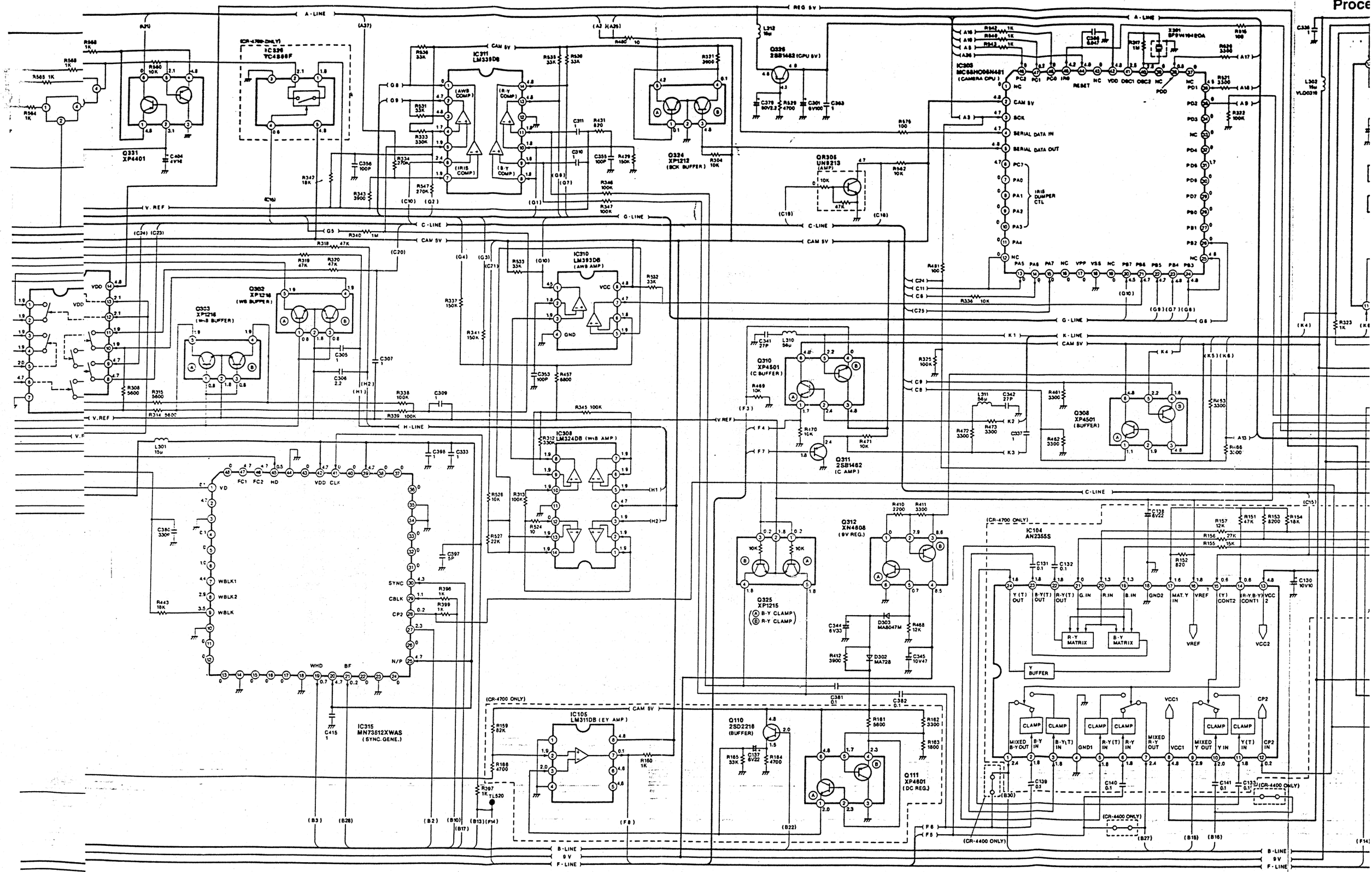
Schaltbil
Process

Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

12-35

Schaltbild des Prozeßteiles
Process Schematic Diagram



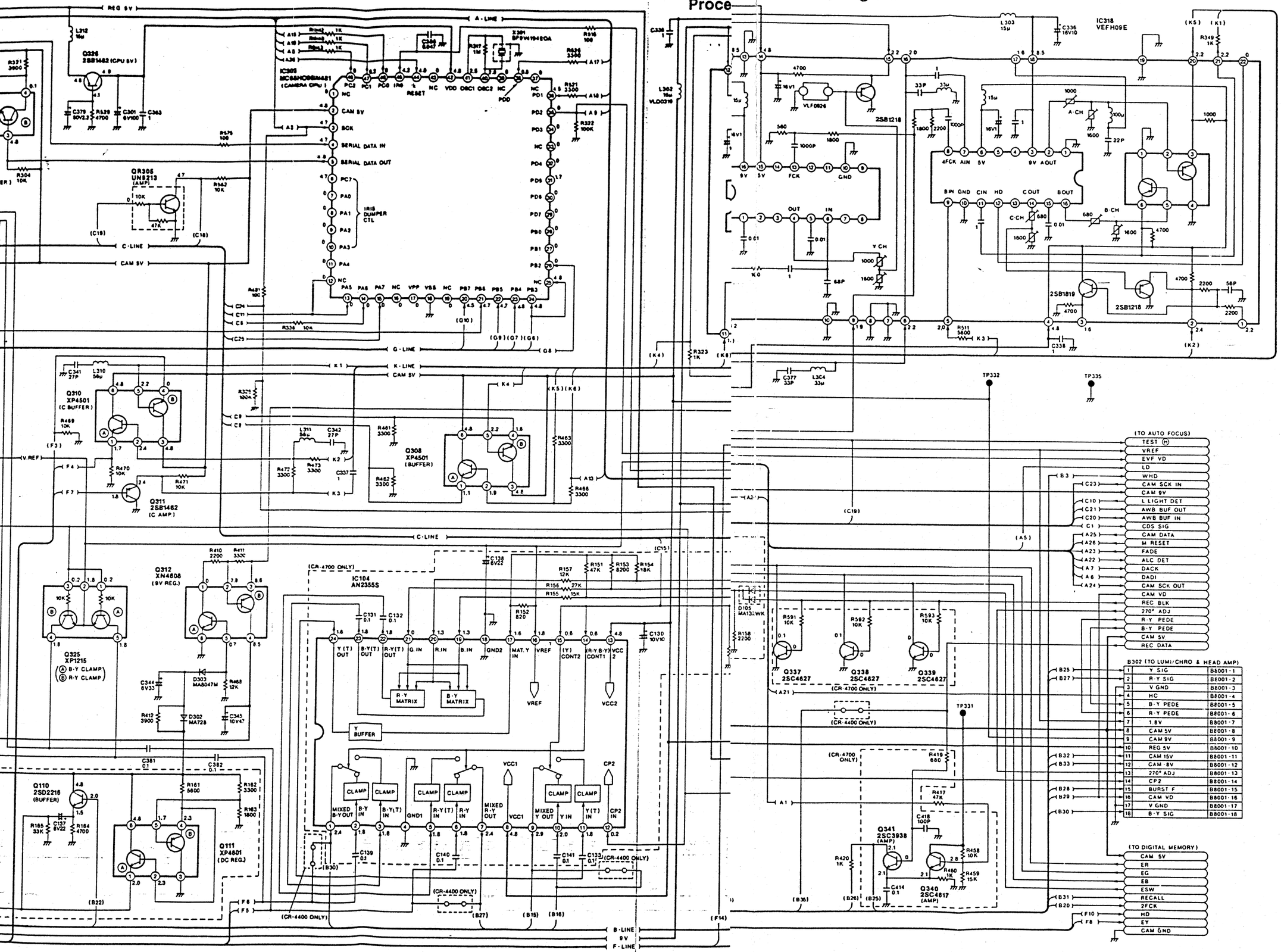


hne Bezeichnung, F (µF) oder Ω einsetzen.

Für Werte ohne or Ω respectively unless otherwise noted.

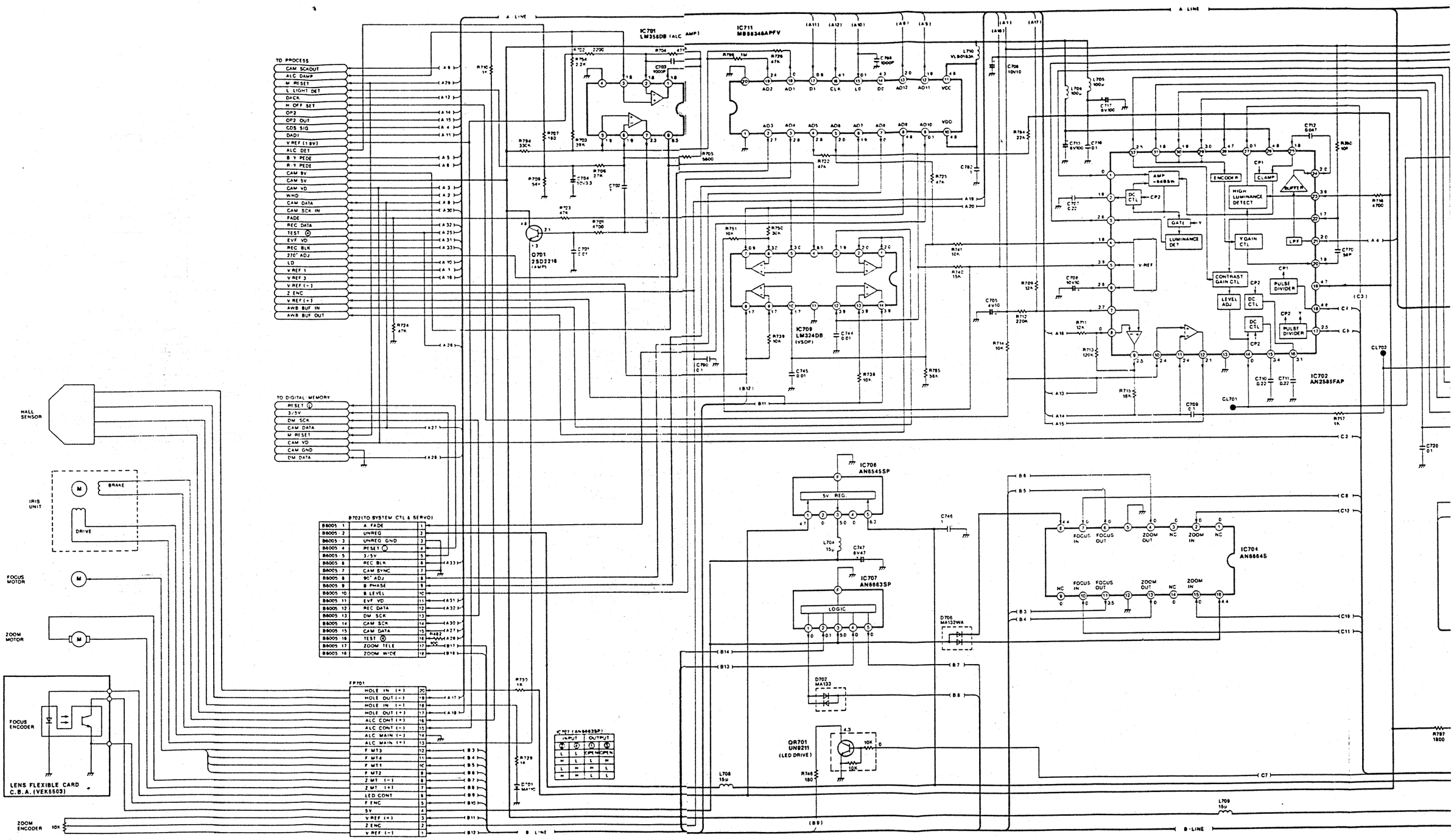
Read F (µF) or

Schaltbild des Prozeßteiles
Process Schematic Diagram

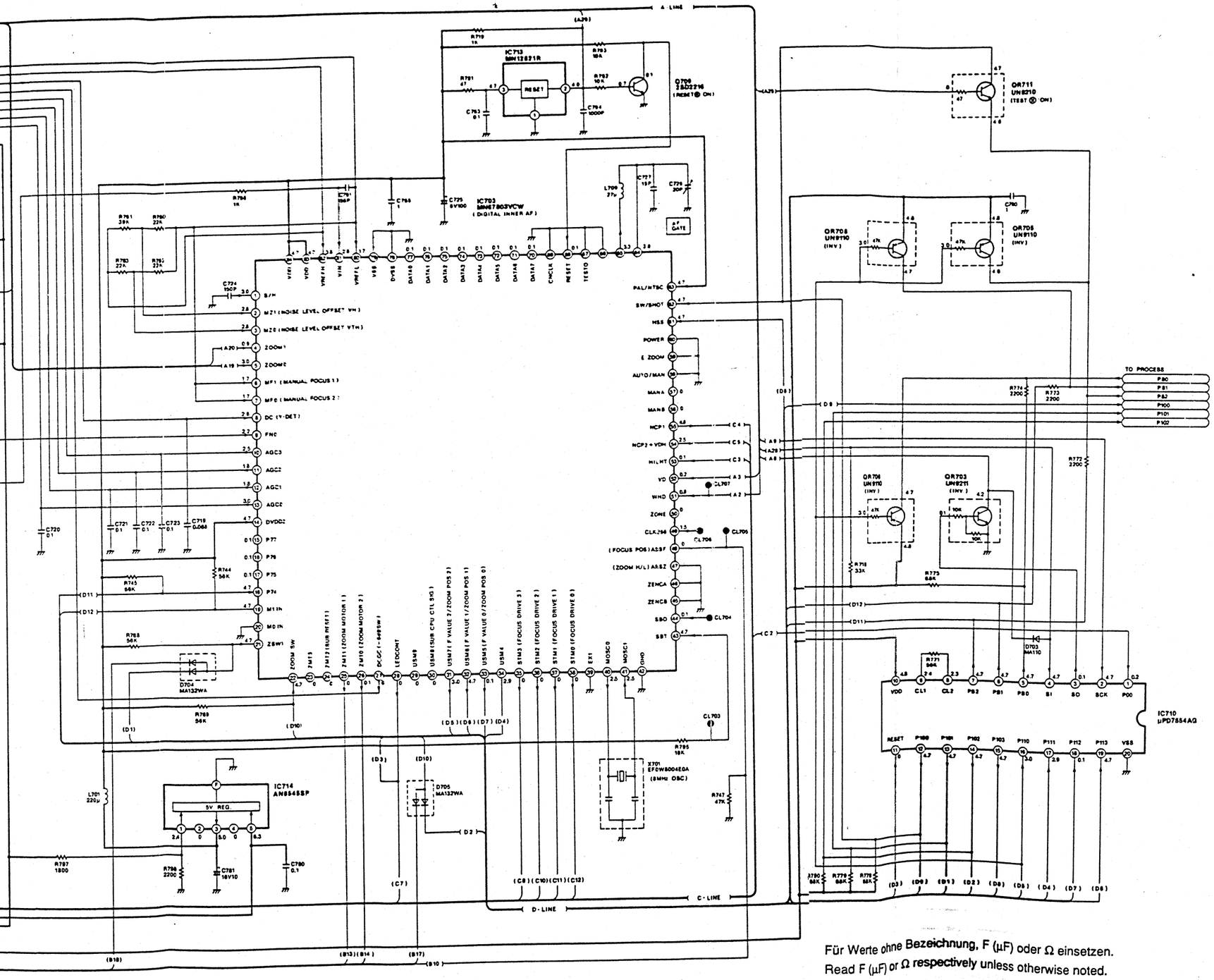


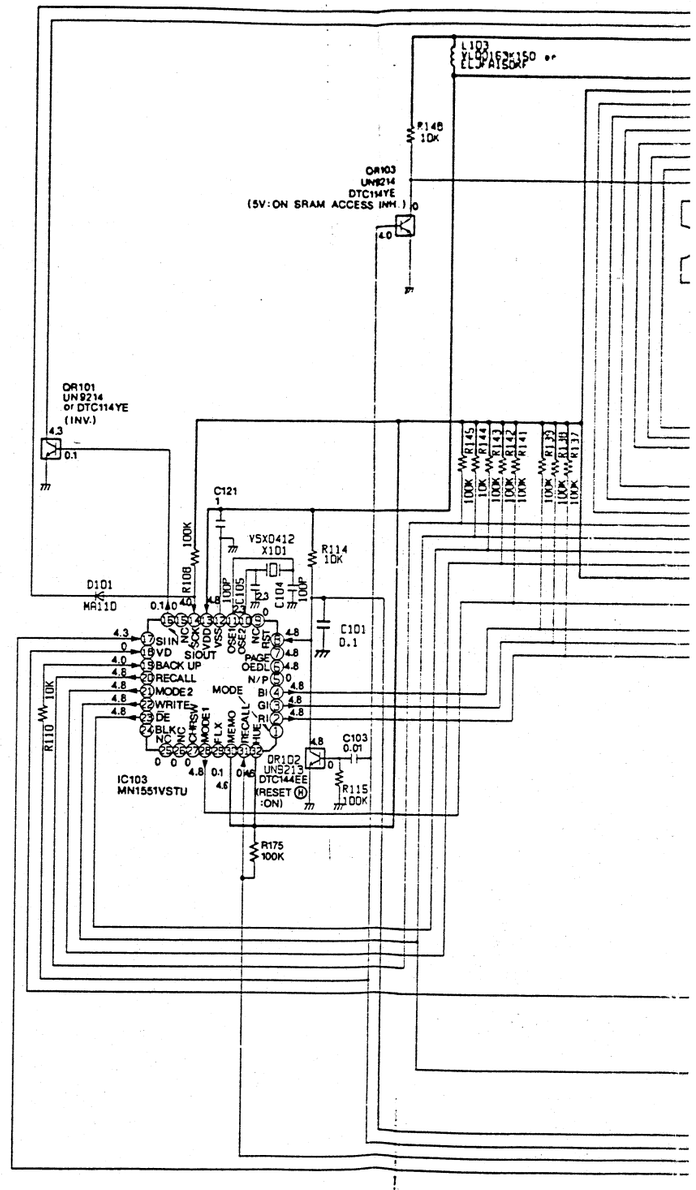
2-36

Schaltbild des Autofokusteiles
Auto Focus Schematic Diagram



Schaltbild des Digitalspeichers (nur CR 4700)
Digital Memory Schematic Diagram (CR 4700 only)





Während der Spannungsmessungen ist die Kamera auf eine logarithmische Grauskala zu richten.

Aim the camera at the logarithmic gray scale chart.

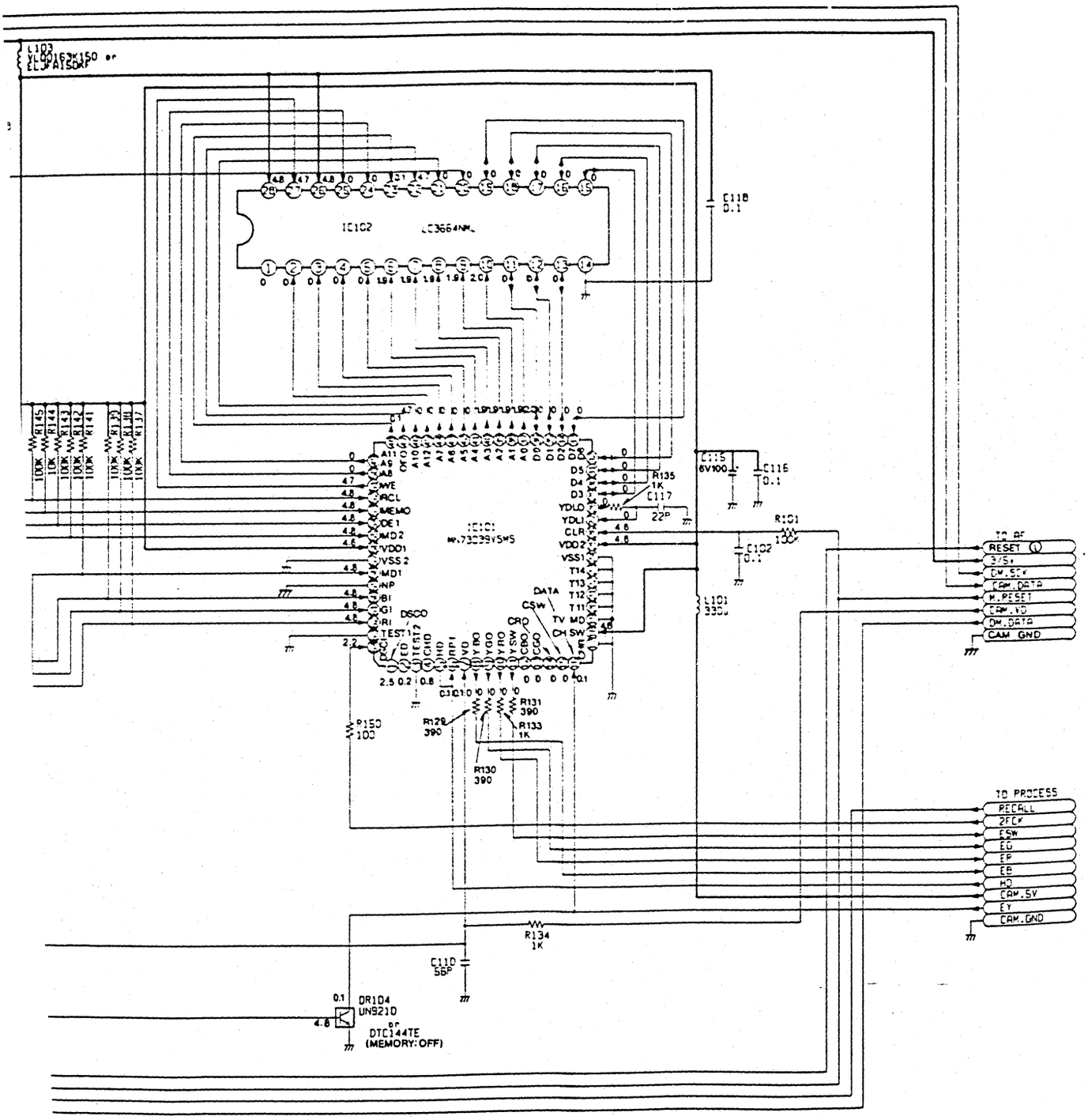
Für Werte ohne Bezeichnung, F (μF) oder Ω einsetzen.

Read F (μF) or Ω respectively unless otherwise noted.

Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen (Betriebsart Stop).

DC voltages tol. ± 15 % measured with digital voltmeter against GND (Stop mode).

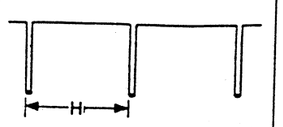
nur CR 4700)
am (CR 4700 only)



Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

Oszillogramme des Autofokusteiles (Stop mode)
Auto Focus Circuit Waveforms (Stop mode)

IC702-⑱



5.0Vp-p

IC702-⑳

0.3Vp-p

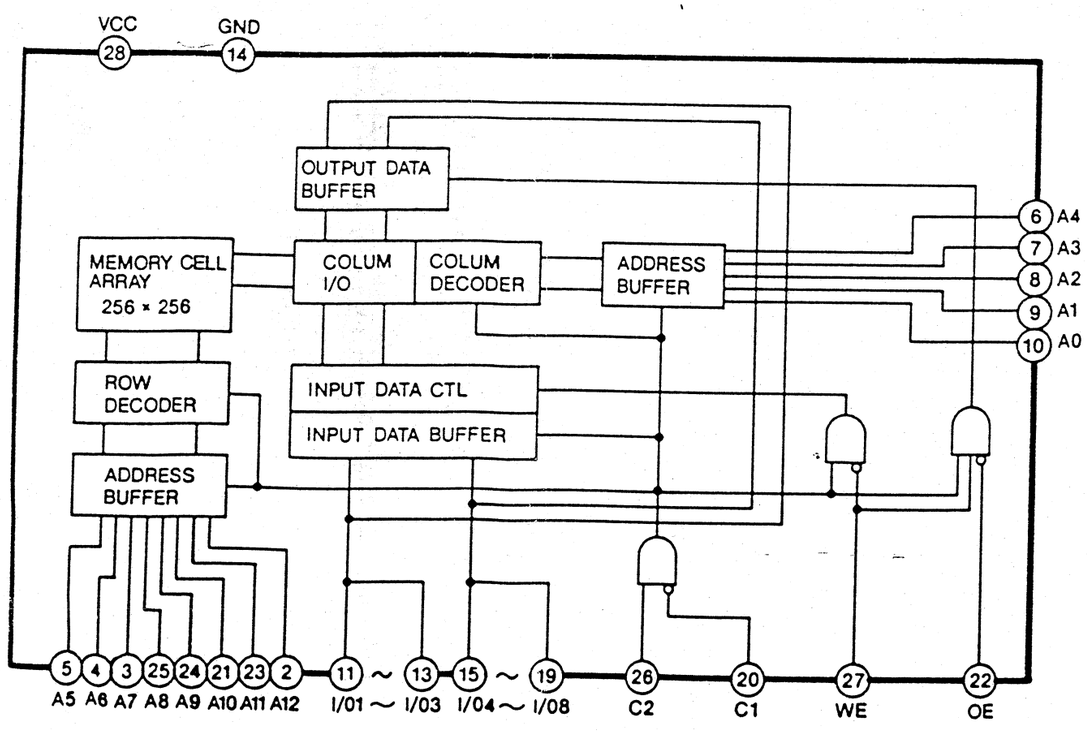
IC702-㉑

0.6Vp-p

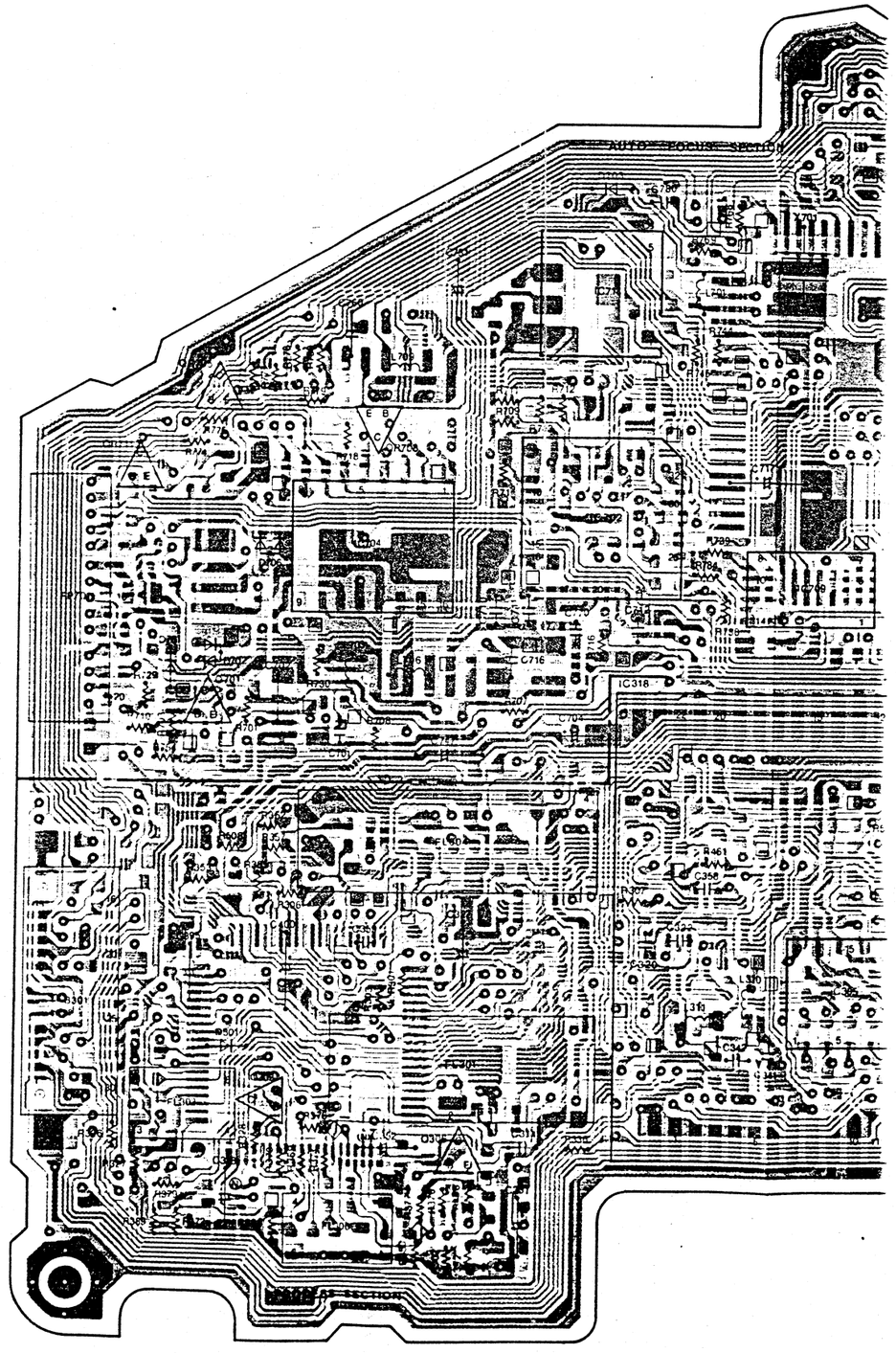
Für diese Oszillogramme muß die Kamera auf eine logarithmische Grauskala gerichtet sein.

For this waveforms aim the camera at the logarithmic gray scale chart.

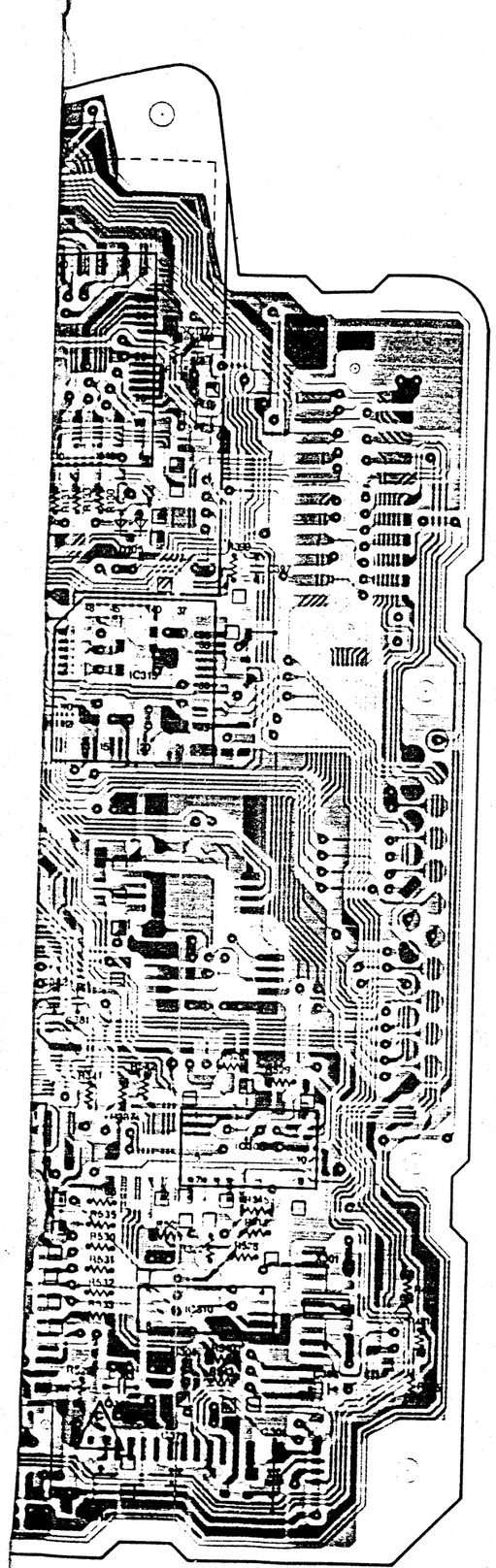
IC102 (LC3664NML)



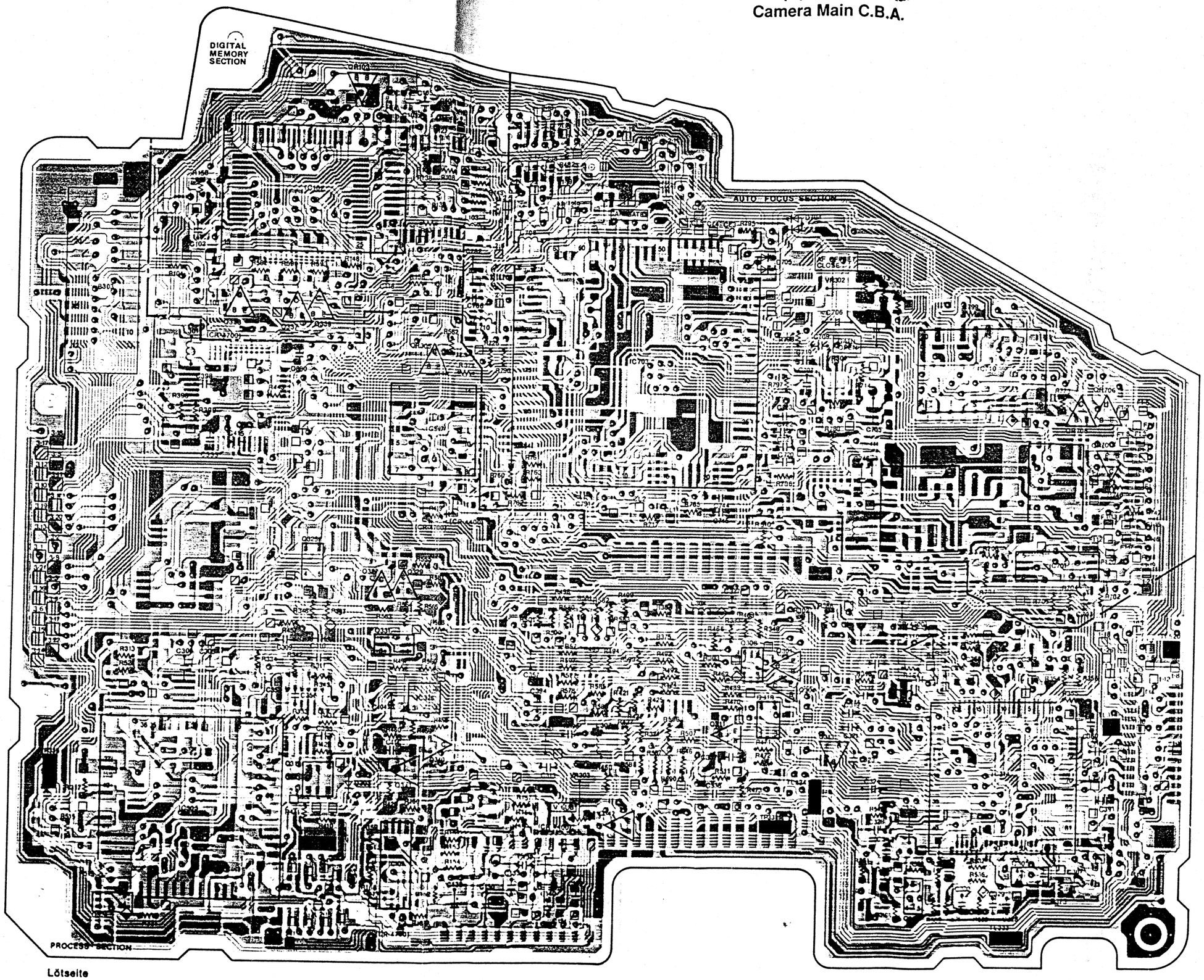
Hauptplatine des Kamerateiles
Camera Main C.B.A.



Hauptplatine des Kamerateiles
Camera Main C.B.A.

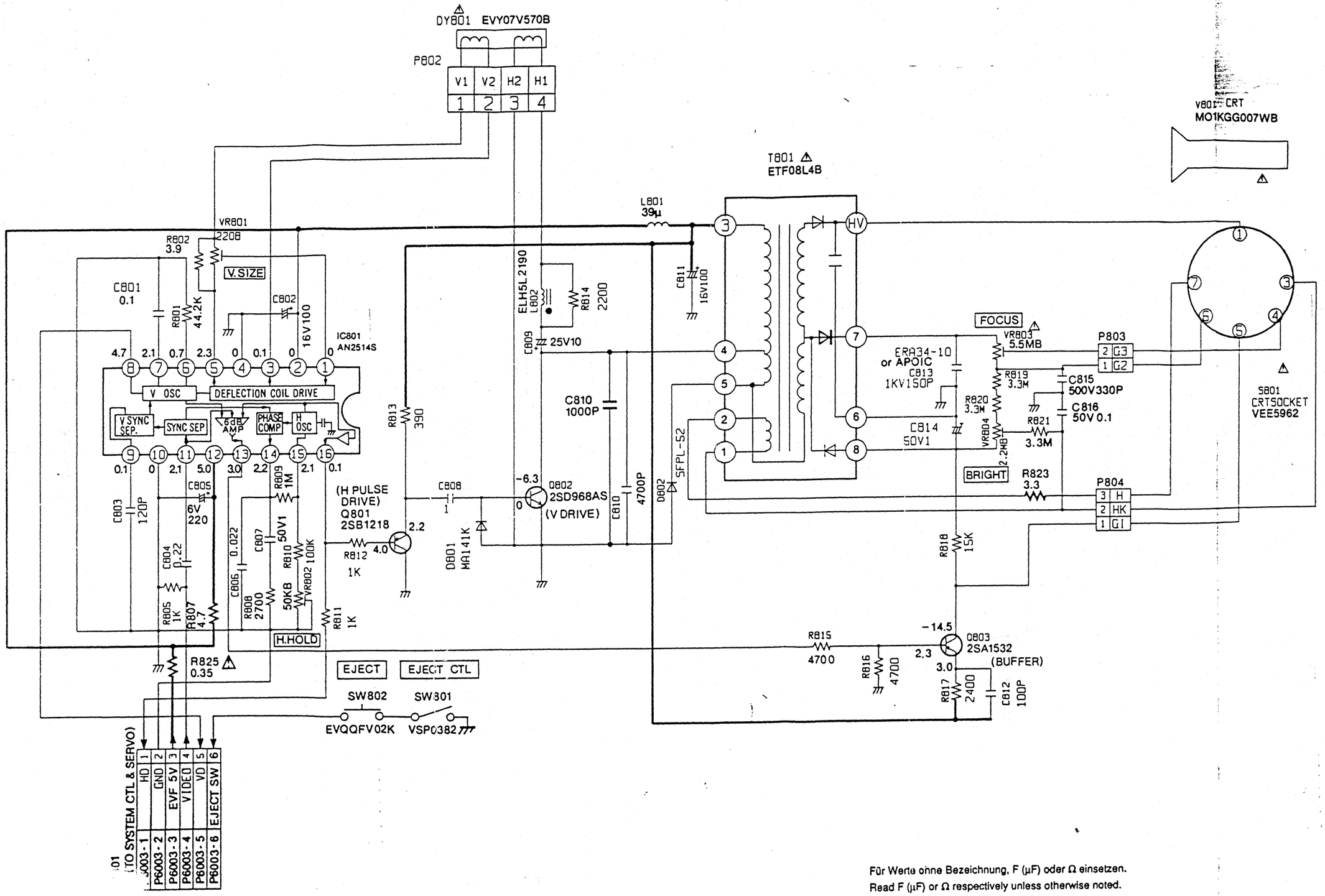


Bestückungsseite
Component side



Lötseite
Foil side

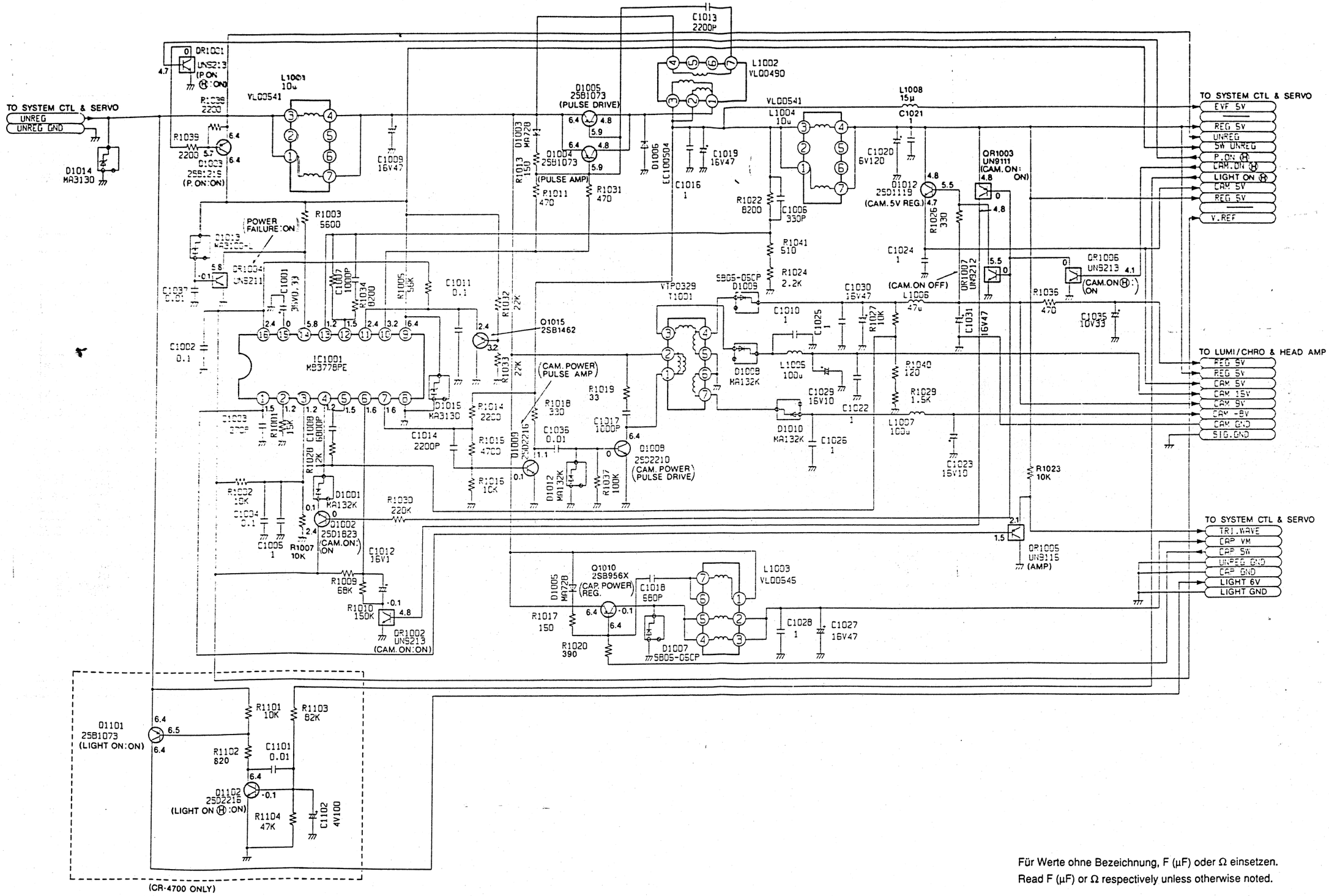
Schaltbild des elektronischen Suchers
E.V.F. Schematic Diagram

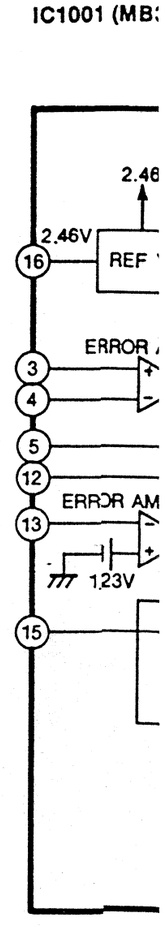


Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen (Betriebsart Stop).
DC voltages tol. ± 15 % measured with digital voltmeter against GND (Stop mode).

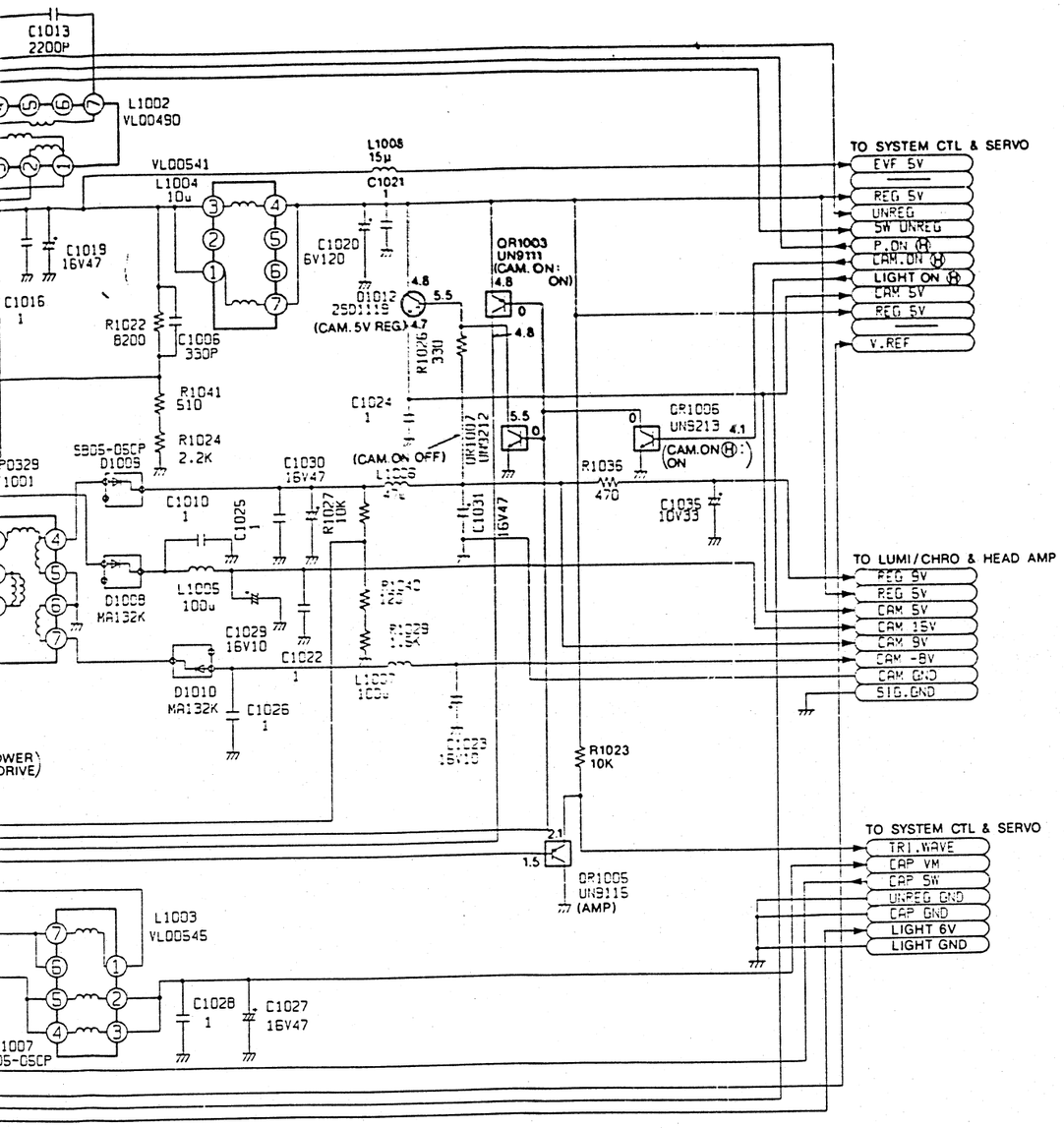
Schaltbild der Stromversorgung
Power Schematic Diagram





Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

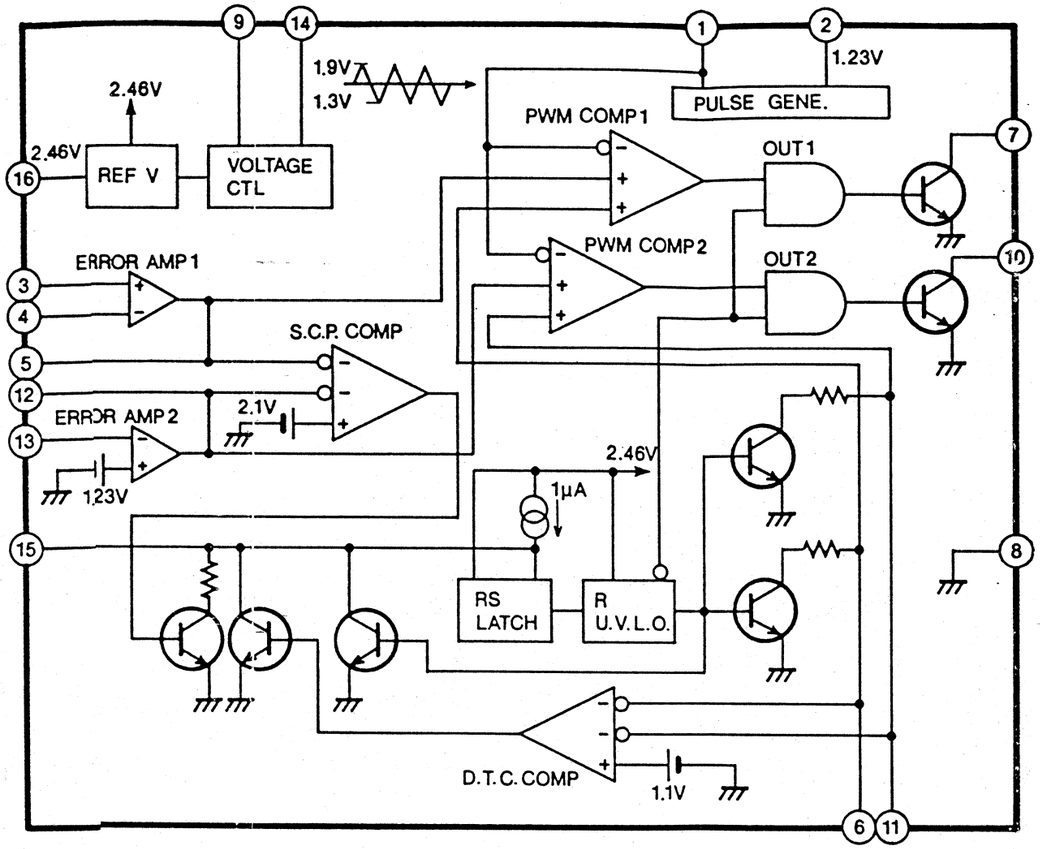
Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen (Betriebsart Stop).
DC voltages tol. ± 15 % measured with digital voltmeter against GND (Stop mode).

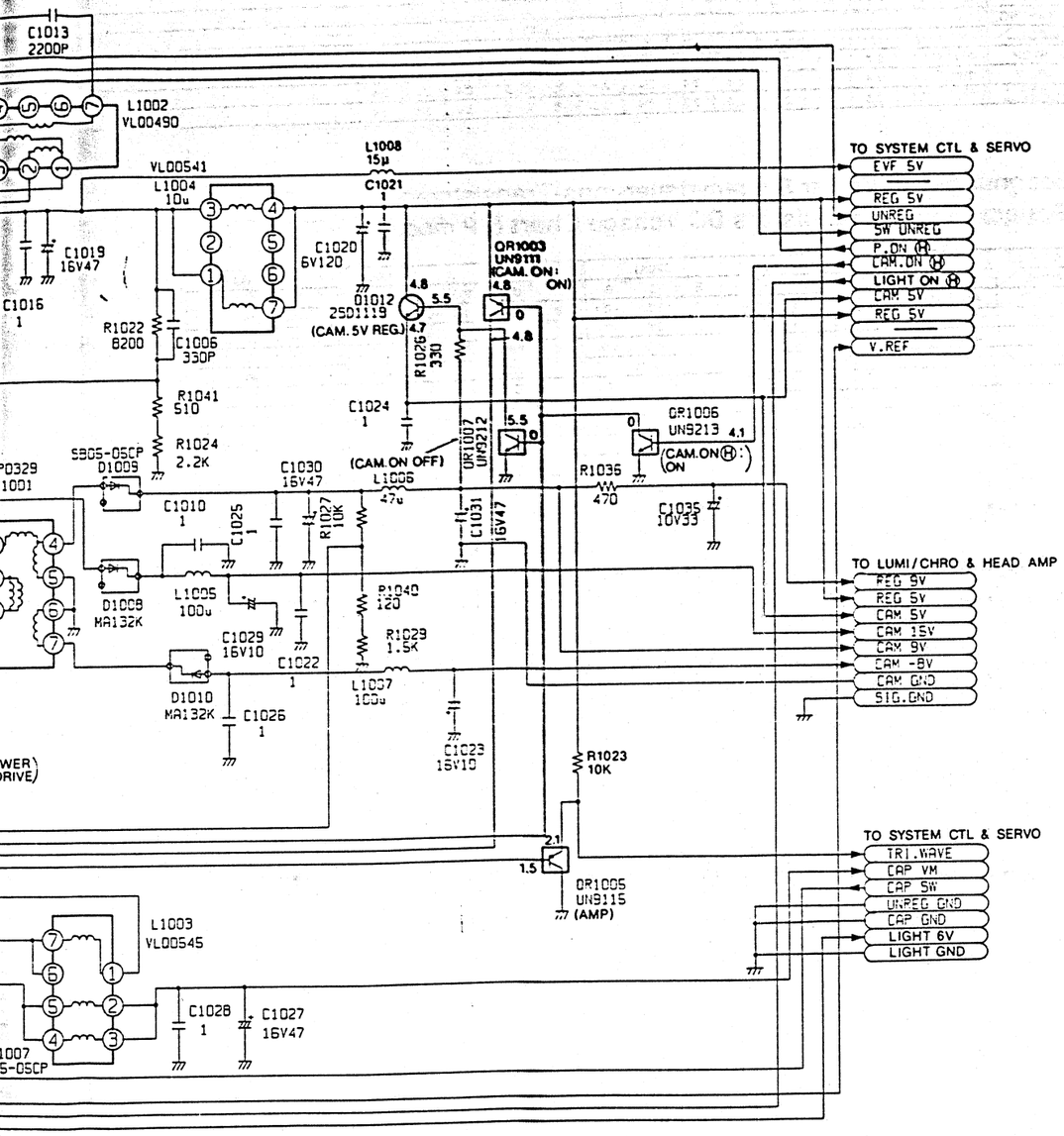


Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen (Betriebsart Stop).
DC voltages tol. ± 15 % measured with digital voltmeter against GND (Stop mode).

IC1001 (MB3778PE)

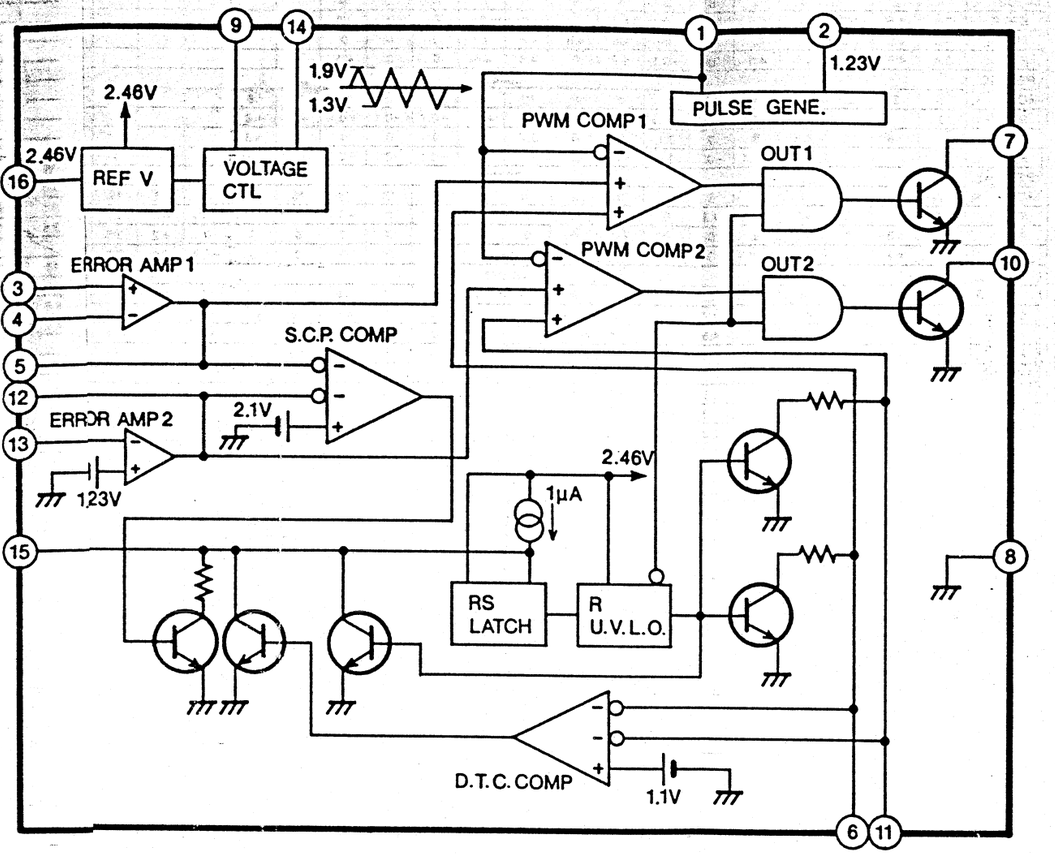




Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen (Betriebsart Stop).
DC voltages tol. ± 15 % measured with digital voltmeter against GND (Stop mode).

IC1001 (MB3778PE)



Spannungstabelle der Systemsteuerungs- und Servo-IC's (SP mode)
System Control and Servo ICs DC Voltage Chart (SP mode)

IC6001

REF. NO. / MODE	1	2	3	4	5	6	7	8
STOP	4.9	−0.1	4.8	0	4.8	−0.1	5.0	6.4
PLAY	5.0	0	4.8	0	5.0	0	5.0	6.6
F.F.	4.9	−0.1	4.8	0	4.8	−0.1	5.0	6.3

IC6004

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	3.4	4.5	4.7	4.6	4.5	2.2	−0.1	4.7	4.7	0	0	0	0	4.8
PLAY	4.0	4.5	4.8	4.6	4.7	0	0	4.8	4.8	4.8	4.8	0	0	0
F.F.	3.4	4.5	4.7	4.7	4.5	0	−0.1	4.7	0	4.8	4.8	0	0	4.8

IC6005

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP	0			4.8	−0.1	−0.1	−0.1	−0.1	3.7	4.7	4.8	−0.1	−0.1	−0.1	4.7	4.8
PLAY	0	4.6	4.8	4.8	0	0	0.1	0	0	3.7	0	0	0	0	0	4.8
F.F.	0			4.8	−0.1	−0.1	0.1	−0.1	0	4.7	4.8	−0.1	−0.1	−0.1	4.7	4.8

IC6006

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	−0.1	4.7	0	4.7	0	4.8	0	2.1	0	−0.1	1.3	−0.1	0	−0.1	0	0	−0.1	4.5	3.6	4.8
PLAY	0	4.8	0	4.7	0	0	0	2.2	0	0	1.3	0	0	0	0	0	0	4.2	3.6	4.8
F.F.	−0.1	4.7	0	4.7	0	0	1.4	2.1	2.1	−0.1	1.3	−0.1	0	0	0	0	−0.1	4.1	3.6	4.7

IC6007

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.6	4.6	4.6	4.7	4.7	4.7	4.4	4.7	4.6	4.7	4.8	0	0	4.6	3.5	4.7	4.5	4.6	4.3	4.8
PLAY	4.7	4.7	0	4.7	4.7	4.5	4.7	4.8	4.7	4.8	4.8	0	0.2	4.8	0	4.8	4.7	4.6	4.4	4.8
F.F.	4.7	4.6	4.6	4.5	4.6	4.5	4.6	4.7	4.7	4.2	4.8	0	0	4.6	2.5	4.7		4.6	4.4	4.8

IC6007

REF. NO. / MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	−0.1	4.7	−0.1	2.3	−0.1	2.3	−0.1	−0.1	−0.1	−0.1	1.8	1.8	−0.1	0	−0.1	4.7	−0.1	0.1	4.7	−0.1
PLAY	0	3.5	0	2.2	2.4	2.8	2.4	0	0	3.6			0	4.8	4.8	4.8	0	0.2	0	0
F.F.	−0.1	4.7	0	2.3	2.3	2.3	2.2	−0.1	−0.1	4.8			−0.1	4.8	4.7	4.7	4.7	0.2	4.7	−0.1

IC6007

REF. NO. / MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.3	−0.1	0	2.3	2.3	2.3	0	2.3	−0.1	2.3	2.3	2.1	2.6	4.8	−0.1	−0.1	−0.1	2.3	2.3	−0.1
PLAY	0	0	1.3	2.4	2.4	2.4	2.4	2.4	0	2.4	2.4	2.1	2.6	4.8	0	0	0	2.4	2.4	0
F.F.	0	−0.1	1.3	2.3	2.4	2.3	2.3	2.3	−0.1	2.3	2.3	2.3	2.6	4.8	−0.1	−0.1	−0.1	2.3	2.3	−0.1

IC6007

REF. NO. / MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	4.8	0	0.2	4.1	4.1	−0.1	−0.1	0	4.7	−0.1	4.8	4.8	4.8	0.7	4.7	0	0	0
PLAY	2.7	0	4.8	2.4	2.9	4.1	4.1	0	0	0	4.8	0.9	4.8	4.8	0	0.7	0	0	0	0
F.F.	2.9	0.4	4.8	2.3	2.9	4.1	4.1	0	−0.1	0	4.7	−0.1	4.1	4.8	0	0.7	4.7	0	0	0

IC6007

REF. NO. / MODE	81	82	83	84
STOP	4.7	4.7	4.6	2.3
PLAY	4.8	4.8	4.6	2.4
F.F.	4.8	4.7	4.6	2.3

IC6008

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	−0.1	0	−0.1	−0.1	0	0	−0.1	0	−0.1	4.7	−0.1	0.6	−0.1	−0.1
PLAY	0	0	0	0	0	0	0	0	0	4.8	0	0.6	0	0
F.F.	−0.1	0.1	−0.1	0	0	0	−0.1	−0.1	−0.1	4.7	−0.1	0.5	−0.1	−0.1

IC6009

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10
STOP	0	0	−0.1	0	0	6.4	4.8	0	4.8	6.4
PLAY	0.1	0	0	0	0	6.6	4.8	0	4.8	6.6
F.F.	0	0	0	0	0	6.2	4.8	0	4.8	6.2

IC6010

REF. NO. / MODE	1	2	3	4	5	6	7	8
STOP	0	2.4	3.4	−0.1	4.6	2.4	3.2	6.4
PLAY	4.8	2.4	3.5	0	0	2.4	3.4	6.6
F.F.	4.7	2.4	3.3	−0.1	4.6	2.4	3.2	6.3

IC6012

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	4.6	4.7	4.8	−0.1	−0.1	−0.1	−0.1	4.7	0	4.7	4.8	4.7	4.7	4.8
PLAY	4.6	4.7	4.8	0.2	0	0	0	4.8	0	4.7	4.8	4.7	4.8	4.8
F.F.	4.6	4.7	4.8	−0.1	0.1	−0.1	−0.1	4.8	0	4.7	4.8	4.7	4.7	4.8

IC6013

REF. NO. / MODE	1	2	3
STOP	4.8	−0.1	0
PLAY	4.8	0	0
F.F.	4.8	0	0

IC6014

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	−0.1	4.6	4.6	4.6	4.6	0	−0.1	4.7	4.6	4.8	4.6	4.6	0	4.8
PLAY	0	4.7	4.6	4.6	4.6	0	0	4.8	4.6	4.8	4.7	4.7	0	4.8
F.F.	−0.1	4.6	4.6	4.6	4.6	0	−0.1	4.7	4.6	4.8	4.6	4.6	−0.1	4.8

IC6015

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	4.7	4.7	4.8	4.8	4.7	4.7	−0.1	4.7	0	4.8	4.8	0	4.7	4.8
PLAY	4.7	4.8	4.8	4.8	4.7	4.8	0	4.8	4.7	4.8	4.8	4.8	4.7	4.8
F.F.	4.7	4.7	4.8	4.8	4.7	4.7	−0.1	4.7	4.6	4.8	4.8	4.7	0	4.8

Spannungstabelle der Systemsteuerungs- und Servo-IC's (SP mode)
System Control and Servo ICs DC Voltage Chart (SP mode)

IC6018

REF. NO. / MODE	1	2	3	4	5
STOP	4.4	4.4	−0.1	4.1	4.8
PLAY	0	4.4	0	0	0
F.F.	4.3	4.3	−0.1	4.1	4.8

IC6201

REF. NO. / MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0.5	1.3	0.7	4.8	2.3	2.3	2.3	2.4	2.3	2.3	−0.1	1.2	1.2	1.2
PLAY	2.1	2.4	2.4	4.8	2.4	2.4	2.4	2.4	2.4	2.4	0	2.4	2.4	2.4
F.F.	1.9	2.3	2.3	4.8	2.3	2.3	2.3	2.4	2.3	0	−0.1	2.4	2.4	2.4

Spannungstabelle der Systemsteuerungs-Transistoren
System Control Transistors DC Voltage Chart (SP mode)

REF. NO.	Q6001			Q6003			Q6004			Q6005			Q6006			Q6010		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.1	4.8	4.8	−0.1	4.5	0	0	6.5	−0.1	4.8	4.8	4.1	−0.1	0	0.6	−0.1	0.1	0.5
PLAY	0	4.8	0	0	4.6	0	0	6.6	0	4.8	4.8	4.1	0	0	0.6	0	2.9	0.2
F.F.	4.1	4.8	4.8	−0.1	4.6	0	1.1	6.2	1.0	4.8	4.8	4.1	−0.1	0	0.6	−0.1	2.9	0.1

REF. NO.	QR6001					QR6002			QR6003			QR6004			QR6005		
MODE	1	2	3	4	5	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.6	4.6	0	0.7	1.3	−0.1	−0.1	1.3	4.8	−0.1	4.8	−0.1	0	4.3	−0.1	−0.1	6.8
PLAY	4.6	4.6	0	1.0	1.4	0	0	1.3	4.8	0	4.8	0	0	4.4	0	0	6.9
F.F.	4.6	4.6	0	0.7	1.4	−0.1	−0.1	1.3	4.8	1.0	0	−0.1	0	4.3	0	−0.1	6.7

REF. NO.	QR6006					QR6008			QR6009			QR6010		
MODE	1	2	3	4	5	E	C	B	E	C	B	E	C	B
STOP	−0.1	−0.1	−0.1	−0.1	−0.1	−0.1	3.4	2.3	4.8	4.7	2.7	4.8	0	4.8
PLAY	0	0	0	0	0	0	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8
F.F.	−0.1	−0.1	−0.1	−0.1	−0.1	−0.1	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8

REF. NO.	QR6011					QR6012			QR6013			QR6014		
MODE	1	2	3	4	5	E	C	B	E	C	B	E	C	B
STOP	4.7	4.7	−0.1	−0.1	0	−0.1	3.5	0.5	3.3	−0.1	4.7	1.3	4.6	0.7
PLAY	0	0	0	0	0	0	3.5	0.6	3.4	0	4.6	1.4	4.6	0.9
F.F.	4.7	4.7	−0.1	−0.1	0	−0.1	3.5	0.5	3.2	−0.1	4.7	1.4	4.6	0.9

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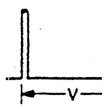
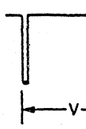


5.0Vp-p

IC6007-⑭



5.0Vp-p

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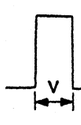


5.0Vp-p

Spannungstabelle der Systemsteuerungs- und Servo-IC's (SP mode)
System Control and Servo ICs DC Voltage Chart (SP mode)

REF. NO.	IC6018																			
MODE	1	2	3	4	5															
STOP	4.4	4.4	−0.1	4.1	4.8															
PLAY	0	4.4	0	0	0															
F.F.	4.3	4.3	−0.1	4.1	4.8															

REF. NO.	IC6201																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0.5	1.3	0.7	4.8	2.3	2.3	2.3	2.4	2.3	2.3	−0.1	1.2	1.2	1.2						
PLAY	2.1	2.4	2.4	4.8	2.4	2.4	2.4	2.4	2.4	2.4	0	2.4	2.4	2.4						
F.F.	1.9	2.3	2.3	4.8	2.3	2.3	2.3	2.4	2.3	0	−0.1	2.4	2.4	2.4						

Spannungstabelle der Systemsteuerungs-Transistoren
System Control Transistors DC Voltage Chart (SP mode)

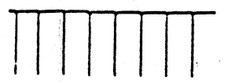
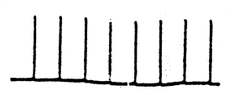
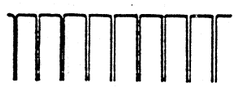
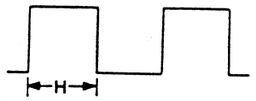
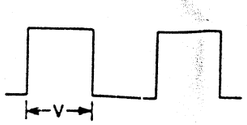
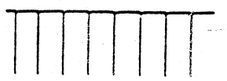
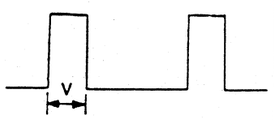
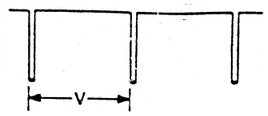
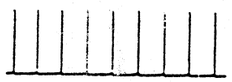
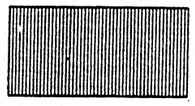
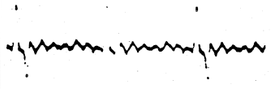
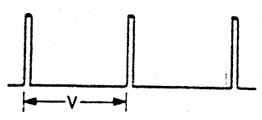
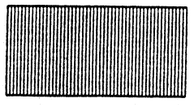
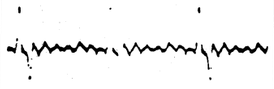
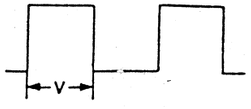
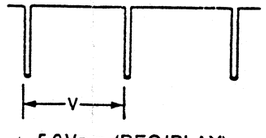
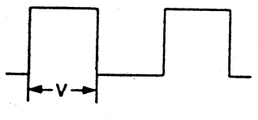
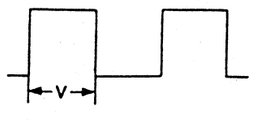
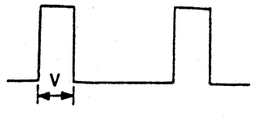
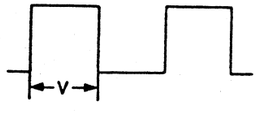
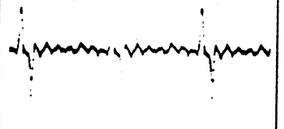
REF. NO.	Q6001			Q6003			Q6004			Q6005			Q6006			Q6010		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.1	4.8	4.8	−0.1	4.5	0	0	6.5	−0.1	4.8	4.8	4.1	−0.1	0	0.6	−0.1	0.1	0.5
PLAY	0	4.8	0	0	4.6	0	0	6.6	0	4.8	4.8	4.1	0	0	0.6	0	2.9	0.2
F.F.	4.1	4.8	4.8	−0.1	4.6	0	1.1	6.2	1.0	4.8	4.8	4.1	−0.1	0	0.6	−0.1	2.9	0.1

REF. NO.	QR6001						QR6002			QR6003			QR6004			QR6005		
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.6	4.6	0	0.7	1.3		−0.1	−0.1	1.3	4.8	−0.1	4.8	−0.1	0	4.3	−0.1	−0.1	6.8
PLAY	4.6	4.6	0	1.0	1.4		0	0	1.3	4.8	0	4.8	0	0	4.4	0	0	6.9
F.F.	4.6	4.6	0	0.7	1.4		−0.1	−0.1	1.3	4.8	1.0	0	−0.1	0	4.3	0	−0.1	6.7

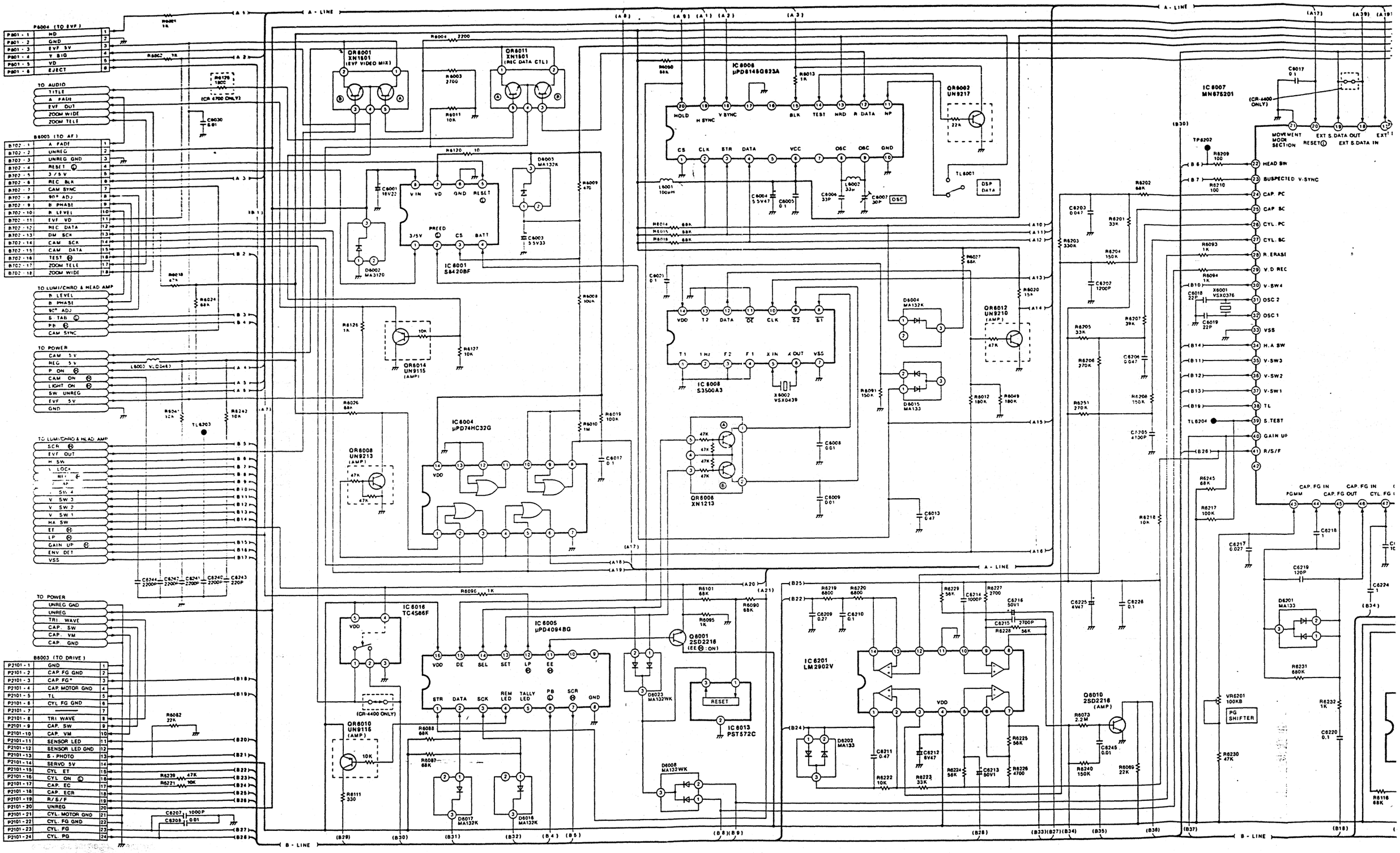
REF. NO.	QR6006						QR6008			QR6009			QR6010					
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B			
STOP	−0.1	−0.1	−0.1	−0.1	−0.1		−0.1	3.4	2.3	4.8	4.7	2.7	4.8	0	4.8			
PLAY	0	0	0	0	0		0	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8			
F.F.	−0.1	−0.1	−0.1	−0.1	−0.1		−0.1	3.4	2.3	4.8	4.7	4.7	4.8	0	4.8			

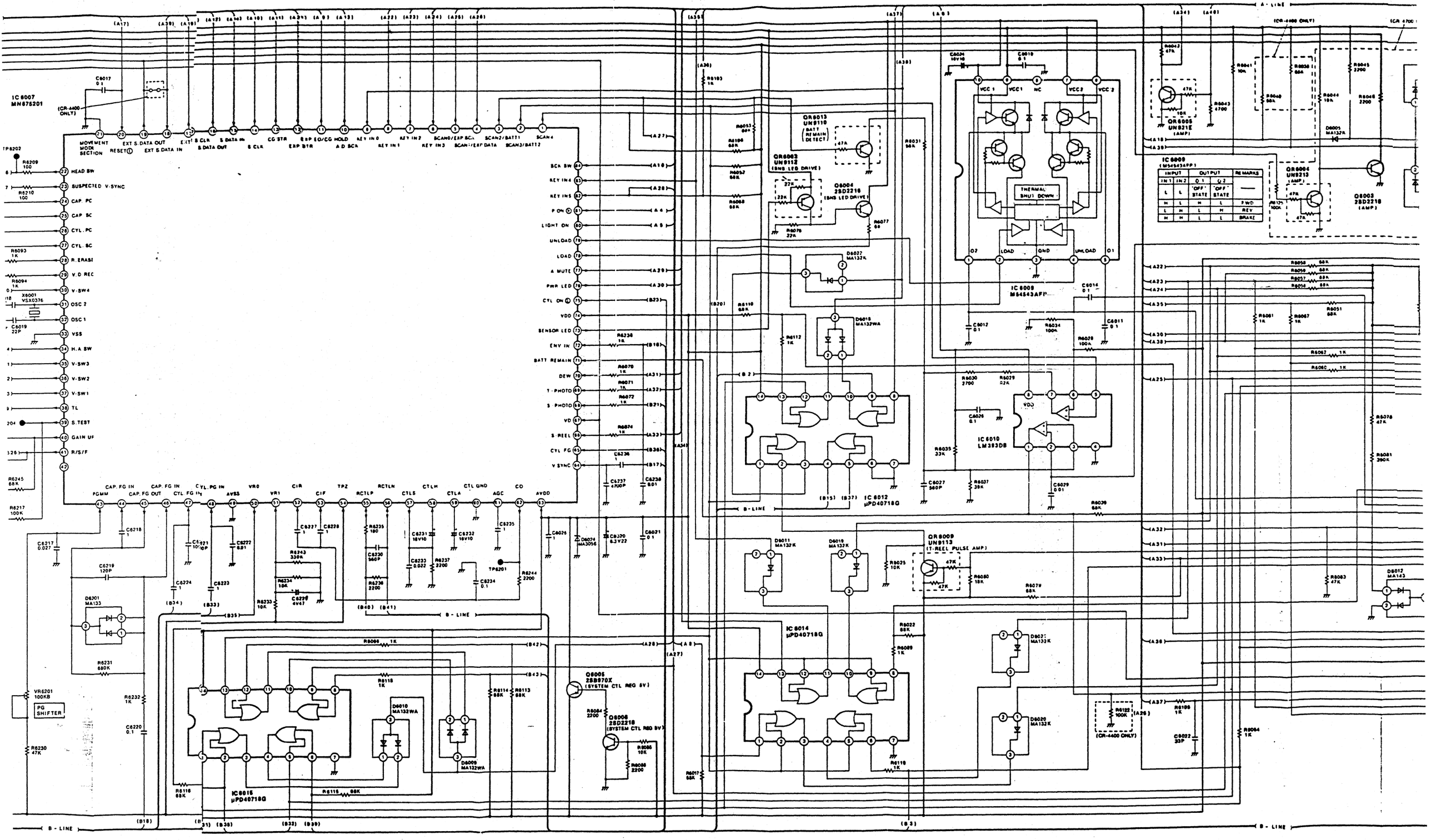
REF. NO.	QR6011						QR6012			QR6013			QR6014					
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B			
STOP	4.7	4.7	−0.1	−0.1	0		−0.1	3.5	0.5	3.3	−0.1	4.7	1.3	4.6	0.7			
PLAY	0	0	0	0	0		0	3.5	0.6	3.4	0	4.6	1.4	4.6	0.9			
F.F.	4.7	4.7	−0.1	−0.1	0		−0.1	3.5	0.5	3.2	−0.1	4.7	1.4	4.6	0.9			

Oszillogramme des Systemsteuerungs- und Servoteiles
System Control and Servo Circuit Waveforms

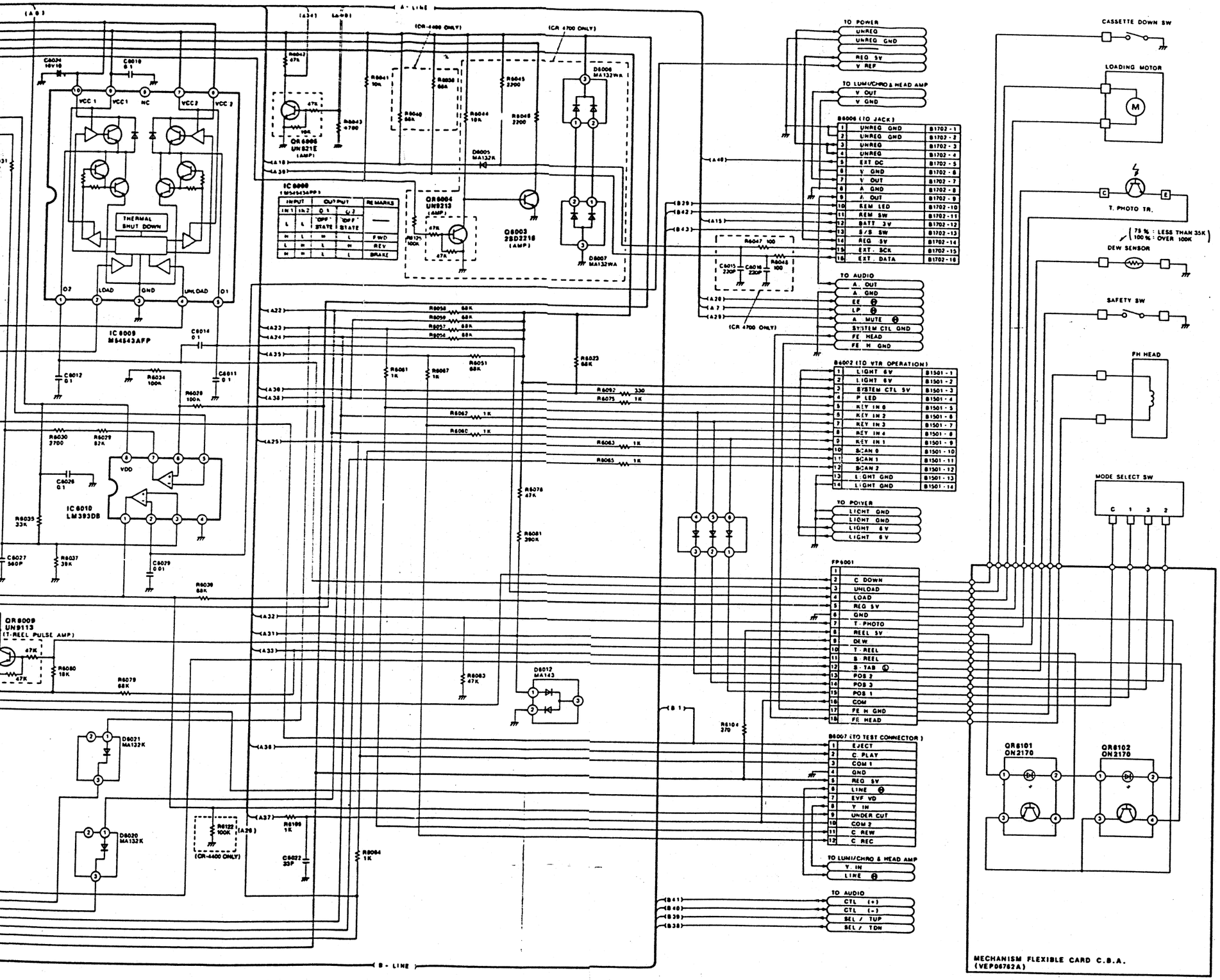
IC6007-①  5.0Vp-p (REC/PLAY)	IC6007-⑯, ⑰, ⑱, ⑲ 5.0Vp-p (REC/PLAY)	IC6007-㊸ 5.0Vp-p (REC/PLAY)	IC6007-㊹  1.7Vp-p (PLAY)
IC6007-②, ③, ④, ⑤, ⑥, ⑦, ⑨  5.0Vp-p (REC/PLAY)	IC6007-㉓, ㉔, ㉖, ㉗  5.0Vp-p (REC/PLAY)	IC6007-㊹, ㊺ 1.3Vp-p (REC/PLAY)	IC6007-㊻  5.0Vp-p (REC/PLAY)
IC6007-⑩  5.0Vp-p (REC)	IC6007-㉚  5.0Vp-p (REC/PLAY)	IC6007-㊼ 1.6Vp-p (REC/PLAY)	IC6007-㊼, ㉓  5.0Vp-p (REC/PLAY)
IC6007-⑫  5.0Vp-p (REC)	IC6007-㉛  4.5Vp-p (REC/PLAY)	IC6007-㊹  0.3Vp-p (PLAY)	IC6007-㊸ 4.5Vp-p (REC/PLAY)
IC6007-⑬  5.0Vp-p (REC/PLAY)	IC6007-㉜  3.5Vp-p (REC/PLAY)	IC6007-㉜, ㉝  2.0Vp-p (PLAY)	IC6007-㉞  5.0Vp-p (PLAY)
IC6007-⑭  5.0Vp-p (REC/PLAY)	IC6007-㉞, ㉟, ㊱  5.0Vp-p (REC/PLAY)	IC6007-㉟, ㊱  5.0Vp-p (REC)	
IC6007-⑬  5.0Vp-p (REC/PLAY)	IC6007-㊲  5.0Vp-p (PLAY)	IC6007-㊷  4.0Vp-p (PLAY)	

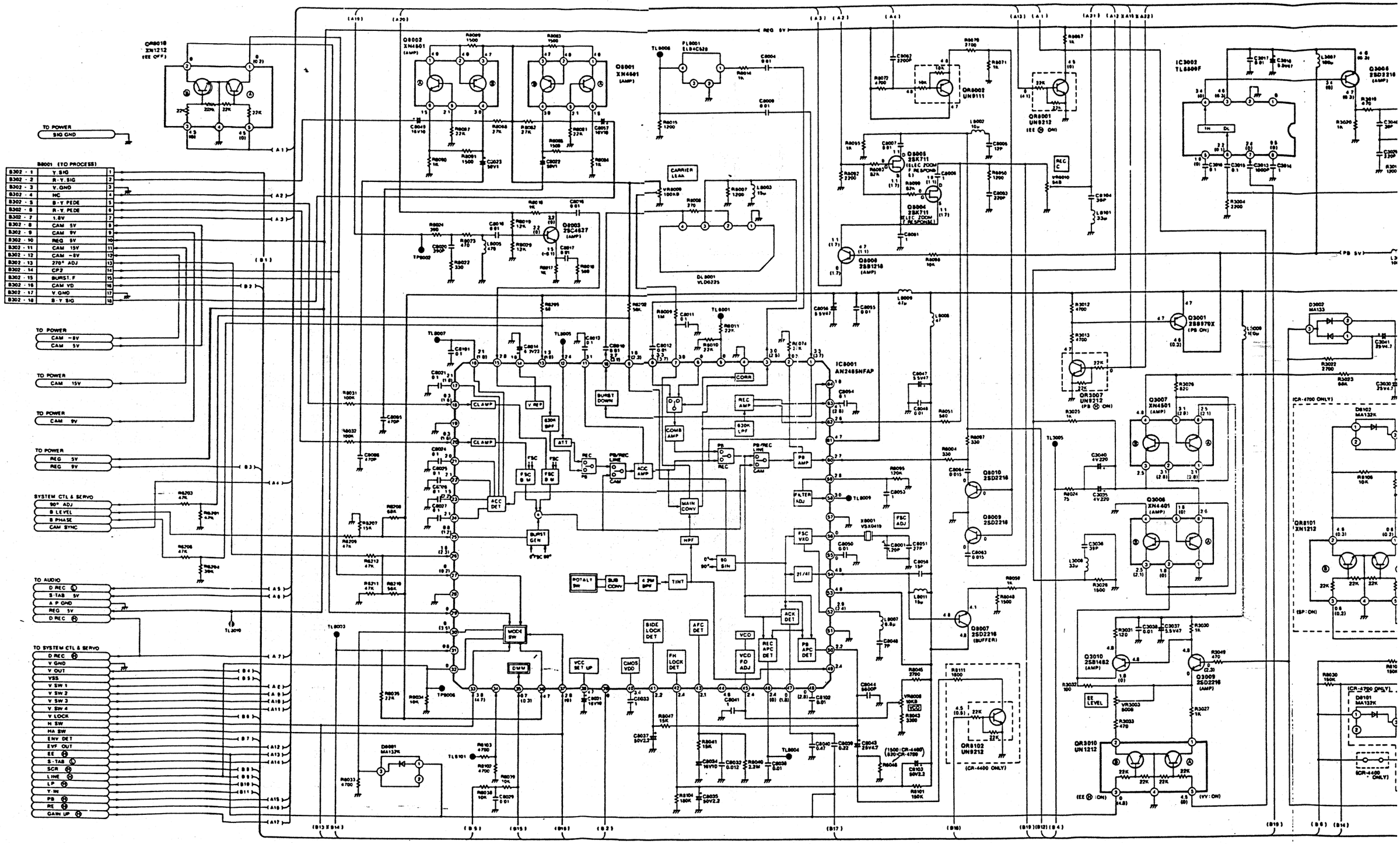
Schaltbild des Systemsteuerungs- und Servoteiles
System Control and Servo Schematic Diagram



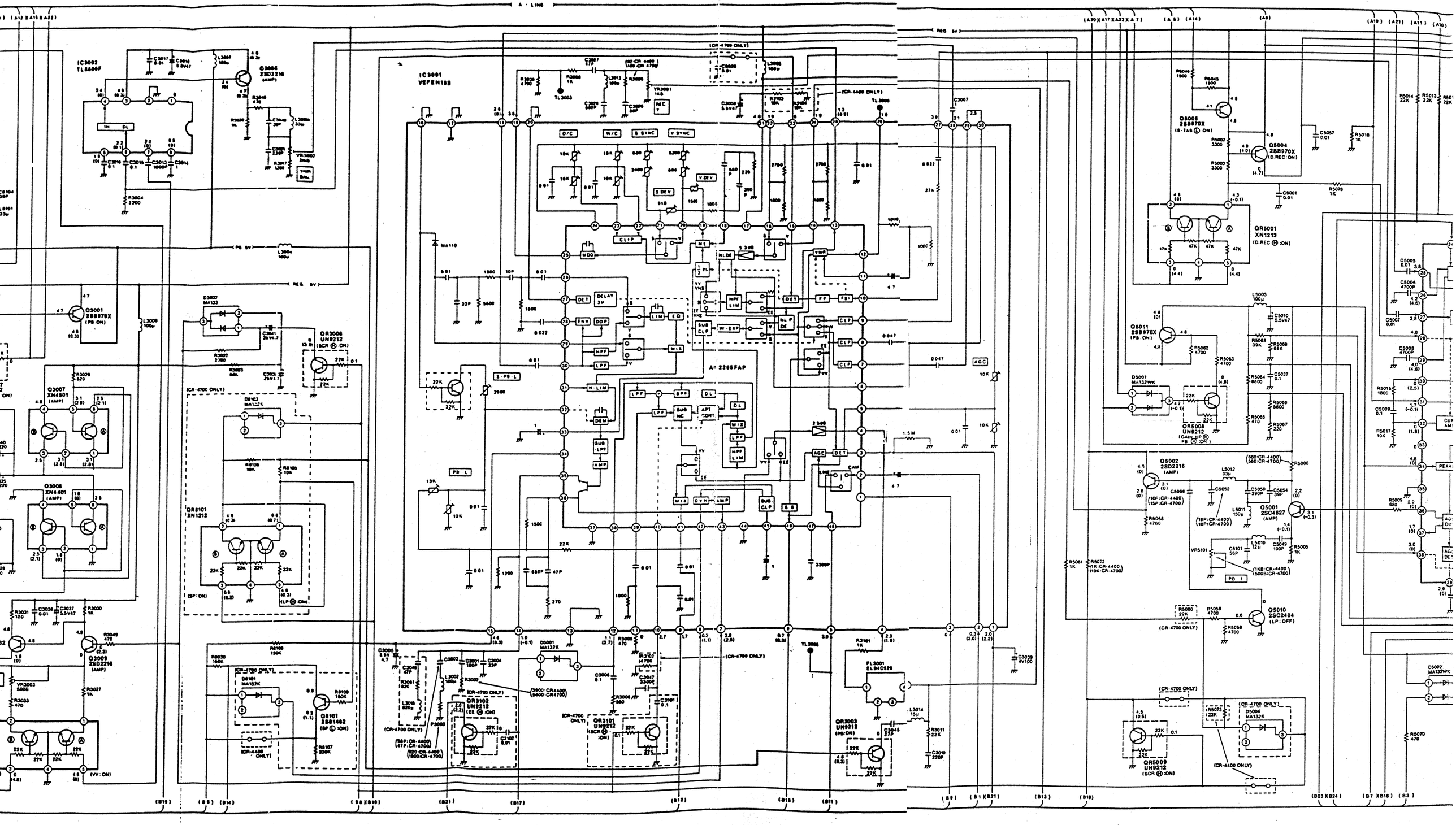

IC 8007
MN675201
(CR-4600 ONLY)
C8017
0.1
MOVEMENT MODE SECTION
RESET
EXT S.DATA OUT
EXT S.DATA IN
S CLR
S DATA IN
S DATA OUT
CG STR
ERP STR
ERP EO/CG HOLD
A.D SCN
KEY IN 0
KEY IN 1
KEY IN 2
KEY IN 3
SCAN0/ERP SCN
SCAN1/ERP DATA
SCAN2/BATT1
SCAN3/BATT2
SCAN4
TP8202
R6209 100
R6210 100
R6093 1K
R6094 1K
X8001 VSX0376
C6019 22P
R6245 68K
R6217 100K
HEAD SW
SUSPECTED V-SYNC
CAP. PC
CAP. SC
CYL. PC
CYL. SC
R. ERASE
V.D REC
V-SW4
OSC 2
OSC 1
VSS
H.A SW
V-SW3
V-SW2
V-SW1
TL
S.TEST
GAIN UP
R/S/F
SCN SW
KEY IN4
KEY IN5
P ON
LIGHT ON
UNLOAD
LOAD
A MUTE
PWR LED
CYL ON
VDD
SENSOR LED
ENV IN
BATT REMAIN
DEW
T-PHOTO
S-PHOTO
VD
S-REEL
CYL FG
V SYNC
R6238 1K
R6070 1K
R6071 1K
R6072 1K
R6074 1K
C6236 1
C6237 4700P
C6238 0.01
R6103 1K
R6053 68K
R6100 68K
R6057 68K
R6058 68K
R6079 22K
R6077 68
R6031 68K
Q8013 UN8110 (BATT REMAIN DETECT)
Q8003 UN8112 (BNS LED DRIVE)
Q8004 2SD2218 (BNS LED DRIVE)
D8022 MA132K
D8018 MA132WA
R6112 1K
R6110 68K
C6034 10V10
C6010 0.1
IC 8008 M54543AFP
THERMAL SHUT DOWN
VCC1
VCC2
NC
O2
LOAD
GND
UNLOAD
O1
C6012 0.1
R6034 100K
R6078 100K
C6011 0.1
R6030 2700
R6029 82K
C6026 0.1
IC 6010 LM393DB
R6035 33K
C6027 560P
R6037 39K
C6029 0.01
R6039 68K
IC 6012 μPD40718Q
R6041 47K
R6042 10K
R6043 4700
R6044 47K
R6045 68K
R6046 10K
R6047 2200
Q8005 UN8121E (AMP)
D8005 MA132K
IC 6009 (M54543AFP)
INPUT IN1 IN2
OUTPUT O1 O2
REMARKS
L L OFF STATE OFF STATE —
H L H L FWD
L H L H REV
H H L L BRAKE
R6112 100K
Q8004 UN8213 (AMP)
Q8003 2SD2218 (AMP)
R6058 68K
R6059 68K
R6057 68K
R6056 68K
R6061 1K
R6067 1K
R6051 68K
R6062 1K
R6060 1K
R6078 47K
R6081 390K
R6064 1K
R6083 47K
D8012 MA143
D8009 UN8113 (T-REEL PULSE AMP)
R6025 10K
R6080 18K
R6077 68K
IC 8014 μPD40718Q
R6022 68K
R6089 1K
D8021 MA132K
D8020 MA132K
R6119 1K
R6123 100K
(CR-4400 ONLY)
R6109 1K
C8022 33P
R6017 68K
R6084 2200
Q8006 2SD2218 (SYSTEM CTL REG 8V)
Q8005 2SB970X (SYSTEM CTL REG 8V)
R6086 10K
R6088 2200
D8010 MA132WA
D8009 MA132WA
R6114 68K
R6113 68K
R6118 1K
R6066 1K
R6116 68K
R6115 68K
IC 8015 μPD40718Q
D8011 MA132K
D8019 MA132K
D8201 MA133
R6231 680K
R6232 1K
C6220 0.1
VR6201 100KB
PG SHIFTER
R6230 47K
C6217 0.027
C6218 1
C6219 120P
C6224 1
C6223 1
C6221 100P
C6222 1
C6272 0.01
R6233 10K
R6243 330K
R6234 10K
C6226 4V47
C6227 1
C6228 1
R6235 180
C6230 560P
R6236 2200
C6231 16V10
C6233 0.022
R6237 2200
C6232 16V10
C6234 0.1
TP6201
R6244 2200
C6235 1
C6026 1
D6024 MA3056
C6220 4700P 6.3V22
C6021 0.1
R6017 68K
R6027 68K
R6026 68K
R6024 68K
R6025 68K
R6022 68K
R6021 68K
R6020 68K
R6019 68K
R6018 68K
R6017 68K
R6016 68K
R6015 68K
R6014 68K
R6013 68K
R6012 68K
R6011 68K
R6010 68K
R6009 68K
R6008 68K
R6007 68K
R6006 68K
R6005 68K
R6004 68K
R6003 68K
R6002 68K
R6001 68K
A-LINE
B-LINE

Schaltbild des Systemsteuerungs- und Servoteiles
System Control and Servo Schematic Diagram

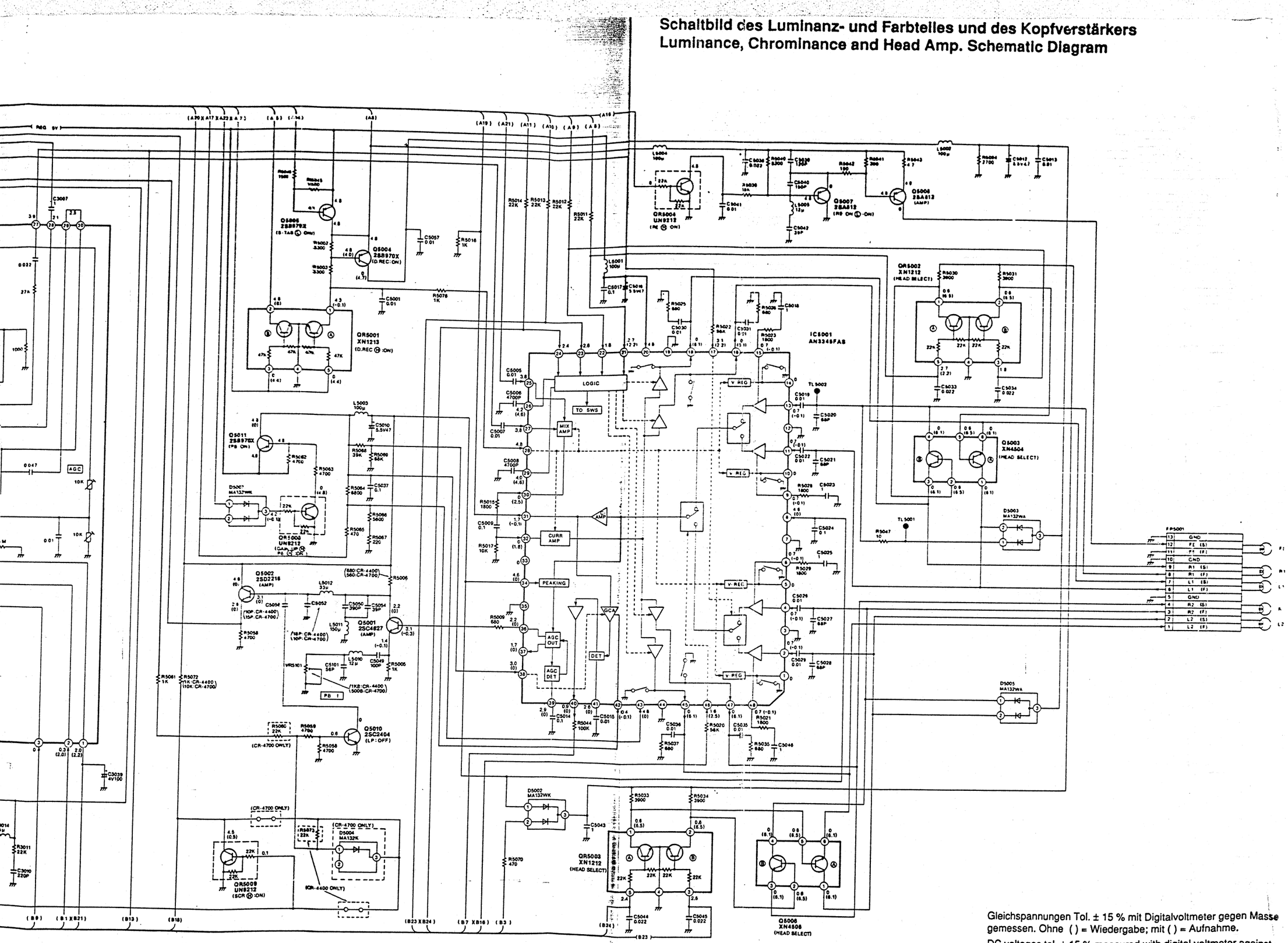




TO POWER
SIG GND
B8001 (TO PROCESS)
B302 - 1 Y. SIG
B302 - 2 R-Y. SIG
B302 - 3 V. GND
B302 - 4 HC
B302 - 5 B-Y. PEDE
B302 - 6 R-Y. PEDE
B302 - 7 1.8V
B302 - 8 CAM 5V
B302 - 9 CAM 9V
B302 - 10 REG 5V
B302 - 11 CAM 15V
B302 - 12 CAM -8V
B302 - 13 270° ADJ
B302 - 14 CP2
B302 - 15 BURST. F
B302 - 16 CAM VD
B302 - 17 V. GND
B302 - 18 B-Y. SIG
TO POWER
CAM -8V
CAM 5V
TO POWER
CAM 15V
TO POWER
CAM 9V
TO POWER
REG 5V
REG 9V
SYSTEM CTL & SERVO
90° ADJ
B LEVEL
B PHASE
CAM SYNC
TO AUDIO
D REC
S-TAB 5V
A P GND
REG 5V
D REC
TO SYSTEM CTL & SERVO
D REC
V GND
V OUT
VSS
V SW 1
V SW 2
V SW 3
V SW 4
V LOCK
H SW
HA SW
ENV DET
EVF OUT
EE
S-TAB
SCR
LINE
LP
Y-IN
PB
RE
GAIN UP
IC8001
AN2485NFAP
IC3002
TL8509F
Q8001
XN4601
(AMP)
Q8002
XN4601
(AMP)
Q8003
2SC4627
(AMP)
Q8004
2SK711
(ELEC ZOOM F RESPONSE)
Q8005
2SK711
(ELEC ZOOM F RESPONSE)
Q8006
2SB1218
(AMP)
Q8007
2SD2216
(BUFFER)
Q8008
2SD2216
Q8009
2SD2216
Q8010
2SD2216
Q3001
2SB970X
(PB ON)
Q3006
XN4401
(AMP)
Q3007
XN4501
(AMP)
Q3008
2SD2216
(AMP)
Q3009
2SD2216
(AMP)
Q3010
2SB1482
(AMP)
QR8001
UN9212
(EE ON)
QR8002
UN9111
QR8101
XN1212
QR8102
UN9212
(CR-4400 ONLY)
QR3007
UN9212
(PB ON)
QR3010
UN1212
(EE ON)
(VV: ON)
D8001
MA132K
D8002
MA133
D8101
MA132K
D8102
MA132K
(CR-4700 ONLY)
(SP: ON)
(CR-4400 ONLY)
CARRIER LEAK
DL8001
VLD0225
REG 5V
PB 5V
CLAMP
V REF
BURST DOWN
CORR
REC AMP
COMB AMP
ATT
FSC
ACC DET
BURST GEN
MAIN CONV
HPF
FILTER ADJ
FSC VXO
FSC ADJ
ACK DET
PB APC DET
REC APC DET
VCO
VCO FO ADJ
FH LOCK DET
AFC DET
SIDE LOCK DET
CMOS VDD
VCC SET UP
DMM
MODE SW
POTALT SW
SUB CONV
TINT
90 SIN


A - LINE
REG 5V
PB 5V
IC3002
TL6500F
Q3006
2SD2216
(AMP)
IC3001
VEFEN15B
(CR-4700 ONLY)
(CR-4400 ONLY)
D/C
W/C
S SYNC
V SYNC
V DEV
S DEV
CLIP
MDO
DET
DELAY 3μ
ENV
DOP
HPF
LPF
H-LIM
DEM
SUB-LPF
AMP
S-PB-L
PB L
APT CONT
SUB NC
DL
MIX
DVM
SUB CLP
S/B
NLDE
VNR
NLP DE
SUB CLP
W-EXP
CLP
AGC
CAM
An 2265FAP
QR3006
UN9212
(SCR ⊕ :ON)
Q3001
2SB970X
(PB :ON)
Q3007
XN4501
(AMP)
Q3008
XN4401
(AMP)
Q3009
2SD2216
(AMP)
QR8101
XN1212
(SP :ON)
Q8101
2SB1462
(SP Ⓡ :ON)
QR3103
UN9212
(EE ⊕ :ON)
QR3101
UN9212
(SCR ⊕ :ON)
QR3003
UN9212
(PS :ON)
QR5001
XN1213
(D.REC Ⓡ :ON)
Q5004
2SB970X
(D.REC :ON)
Q5005
2SB970X
(S-TAB Ⓛ :ON)
Q5011
2SB970X
(PB :ON)
QR5008
UN9212
(GAIN UP Ⓡ
PB Ⓒ :ON)
Q5002
2SD2216
(AMP)
Q5001
2SC4627
(AMP)
Q5010
2SC2404
(LP :OFF)
QR5009
UN9212
(SCR Ⓡ :ON)
D3002
MA133
D8101
MA132K
D8102
MA132K
D3001
MA133K
D5007
MA132WK
D5004
MA132K
D5002
MA132WK
FL3001
ELB4C520
(CR-4700 ONLY)
(CR-4400 ONLY)
(680:CR-4400)
(560:CR-4700)
(18P:CR-4400)
(10P:CR-4700)
(10F:CR-4400)
(15P:CR-4700)
(1KB:CR-4400)
(500B:CR-4700)
(680:CR-4400)
(470:CR-4700)
(820:CR-4400)
(1500:CR-4700)
(2000:CR4400)
(3600:CR4700)
(SP :ON)
(VV :ON)
PB I
PEAK
REG 5V
PB 5V

Schaltbild des Luminanz- und Farbteiles und des Kopfverstärkers
Luminance, Chrominance and Head Amp. Schematic Diagram



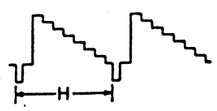
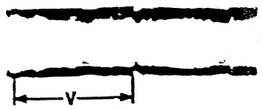
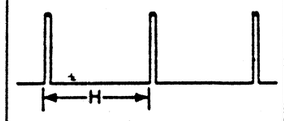
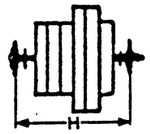
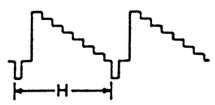
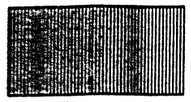
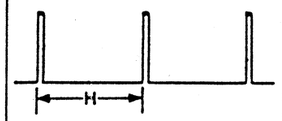
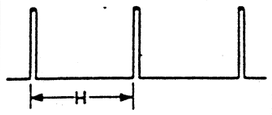
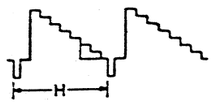
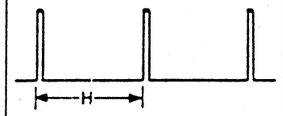
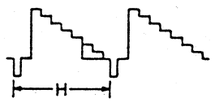
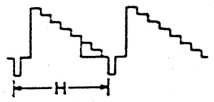
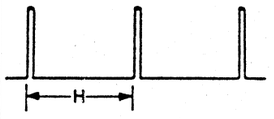
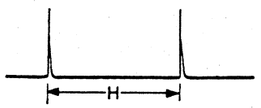
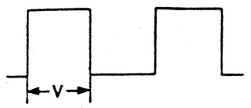
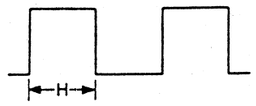
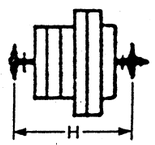
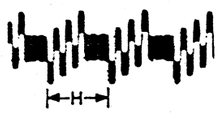
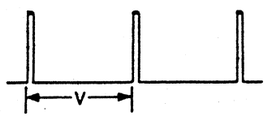
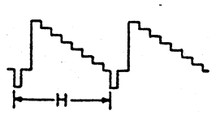
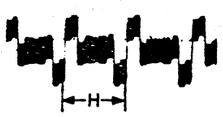
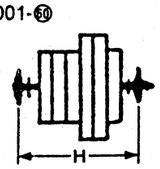
Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen. Ohne ( ) = Wiedergabe; mit ( ) = Aufnahme.

DC voltages tol. ± 15 % measured with digital voltmeter against GND. Without ( ) = Playback; with ( ) = Record.

Während der Spannungsmessungen ist die Kamera auf ein Farbtestbild zu richten.

Aim the camera at the colour chart.

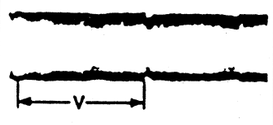
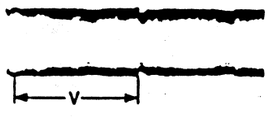
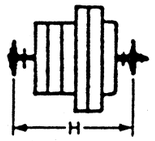
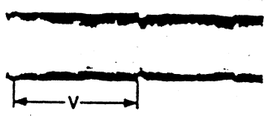
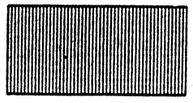
Oszillogramme des Luminanz- und Farbteiles
Luminance and Chrominance Circuit Waveforms

IC3001-②  1.0Vp-p (REC)	IC3001-⑬  1.0Vp-p (PLAY)	IC8001-㊼, ㊶  5.0Vp-p (REC)	IC8001-⑫  0.4Vp-p (REC)
IC3001-④  0.7Vp-p (REC/PLAY)	IC3001-⑪  0.9Vp-p (REC)	IC8001-㊶  3.1Vp-p (REC)	
IC3001-⑥  5.0Vp-p (REC/PLAY)	IC3001-㉔, ㉙, ㉚  0.3Vp-p (REC/PLAY)	IC8001-㊵  4.0Vp-p (PLAY)	
IC3001-⑦  2.3Vp-p (REC/PLAY)	IC3001-㉕, ㉘  0.4Vp-p (PLAY)	IC8001-㊸  5.0Vp-p (REC/PLAY)	
IC3001-⑧  4.0Vp-p (REC)	IC3001-㉗  5.0Vp-p (REC/PLAY)	IC8001-㊸, ㊷  5.0Vp-p (REC/PLAY)	
IC3001-⑨  0.2Vp-p (REC/PLAY)	IC8001-⑯  0.2Vp-p (REC)	IC8001-㊾  5.0Vp-p (REC)	
IC3001-⑭  1.0Vp-p (PLAY)	IC8001-⑳  0.2Vp-p (REC)	IC8001-㊿  0.4Vp-p (REC/PLAY)	

Für diese Oszillogramme muß die Kamera auf ein Farbtestbild gerichtet sein.

For this waveforms aim the camera at the colour chart.

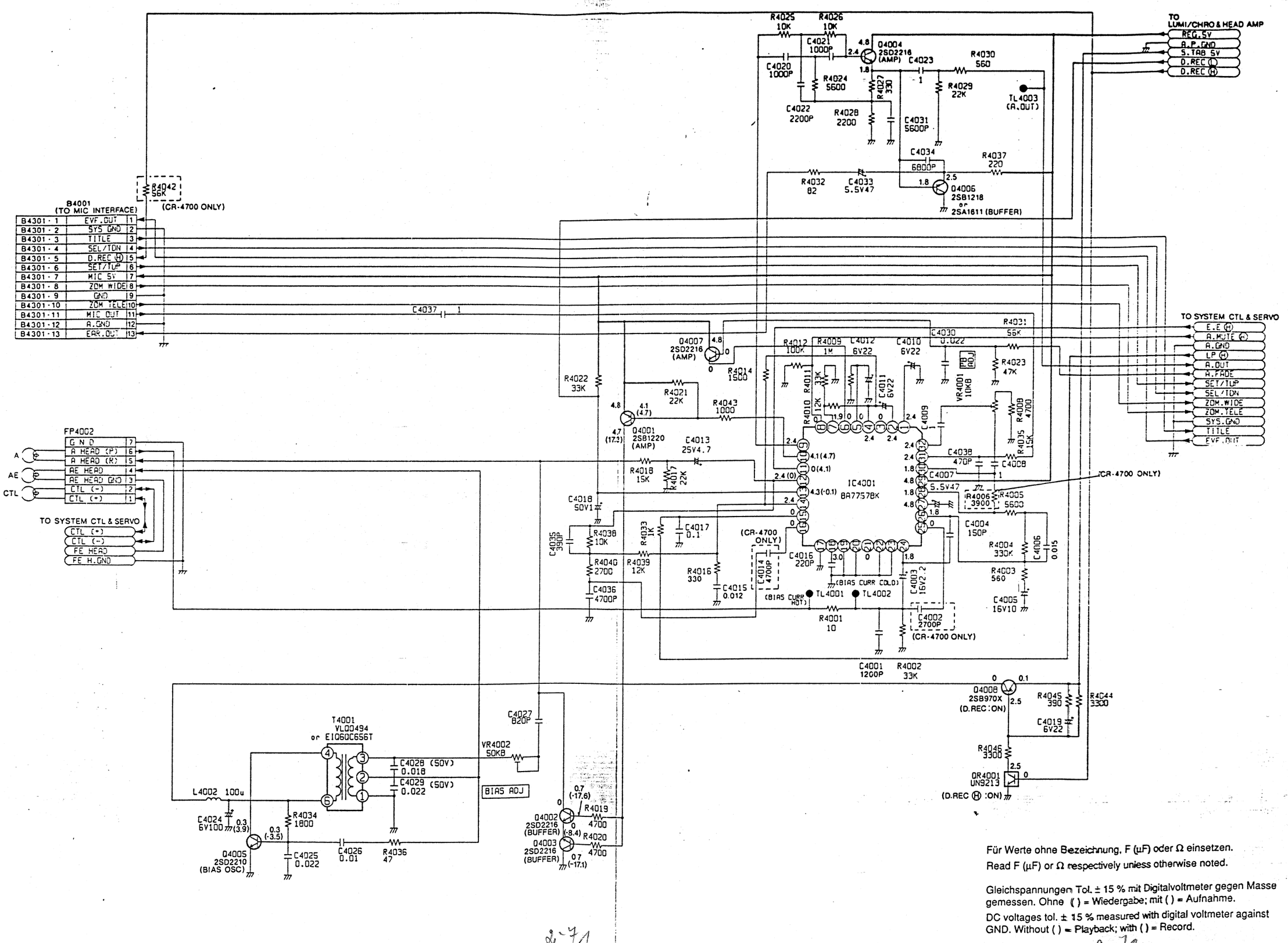
Oszillogramme des Kopfverstärkers
Head Amp Circuit Waveforms

IC5001-③  1.0Vp-p (PLAY)	IC5001-㉛  80mVp-p (PLAY)
IC5001-㉓  0.2Vp-p (REC)	IC5001-㊲  0.25Vp-p
IC5001-㊲  0.12Vp-p (REC)	

Für diese Oszillogramme muß die Kamera auf ein Farbtestbild gerichtet sein.

For this waveforms aim the camera at the colour chart.

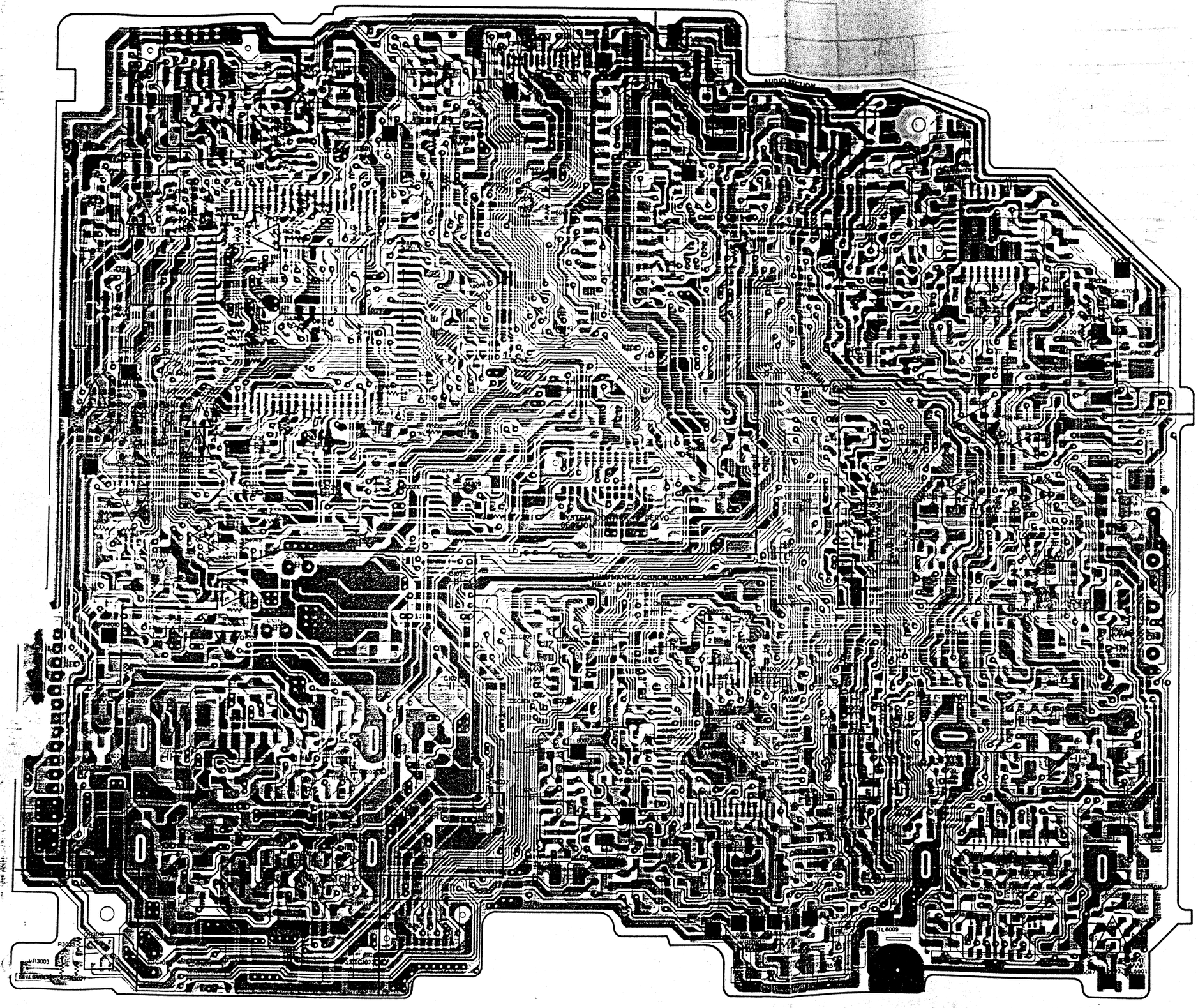
Schaltbild des Tonteiles
Audio Schematic Diagram



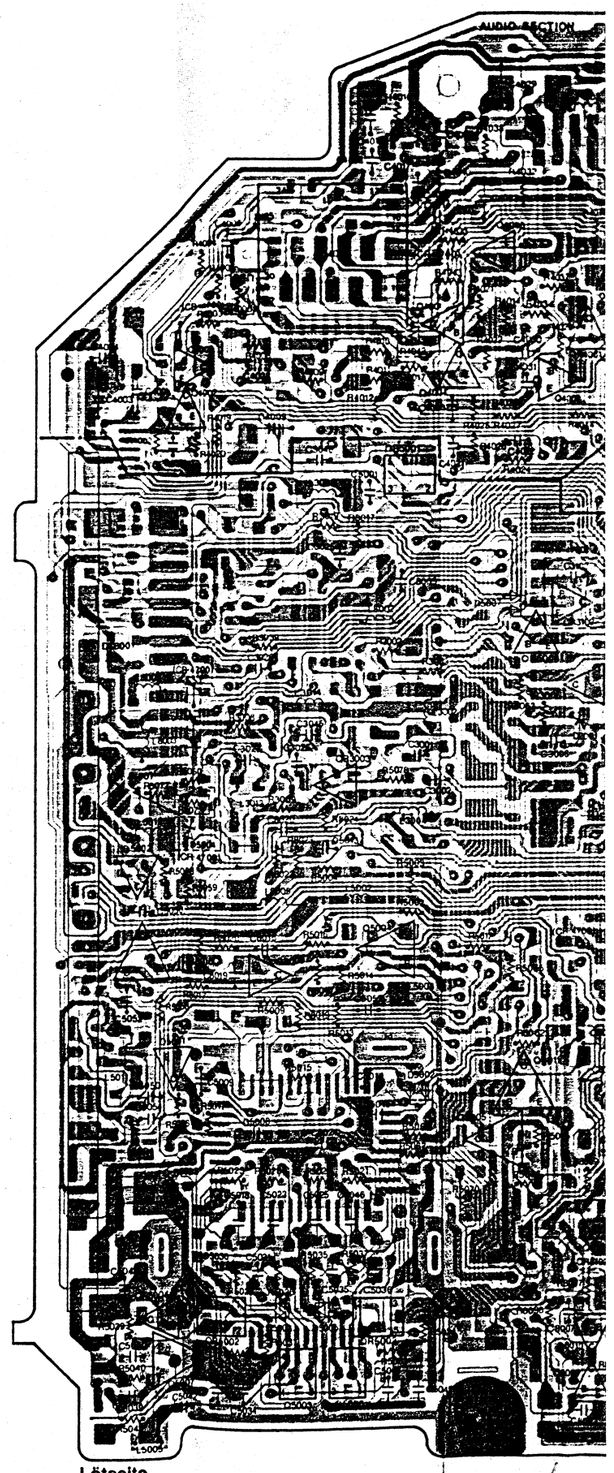
Für Werte ohne Bezeichnung, F (µF) oder Ω einsetzen.
Read F (µF) or Ω respectively unless otherwise noted.

Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen. Ohne ( ) = Wiedergabe; mit ( ) = Aufnahme.
DC voltages tol. ± 15 % measured with digital voltmeter against GND. Without ( ) = Playback; with ( ) = Record.

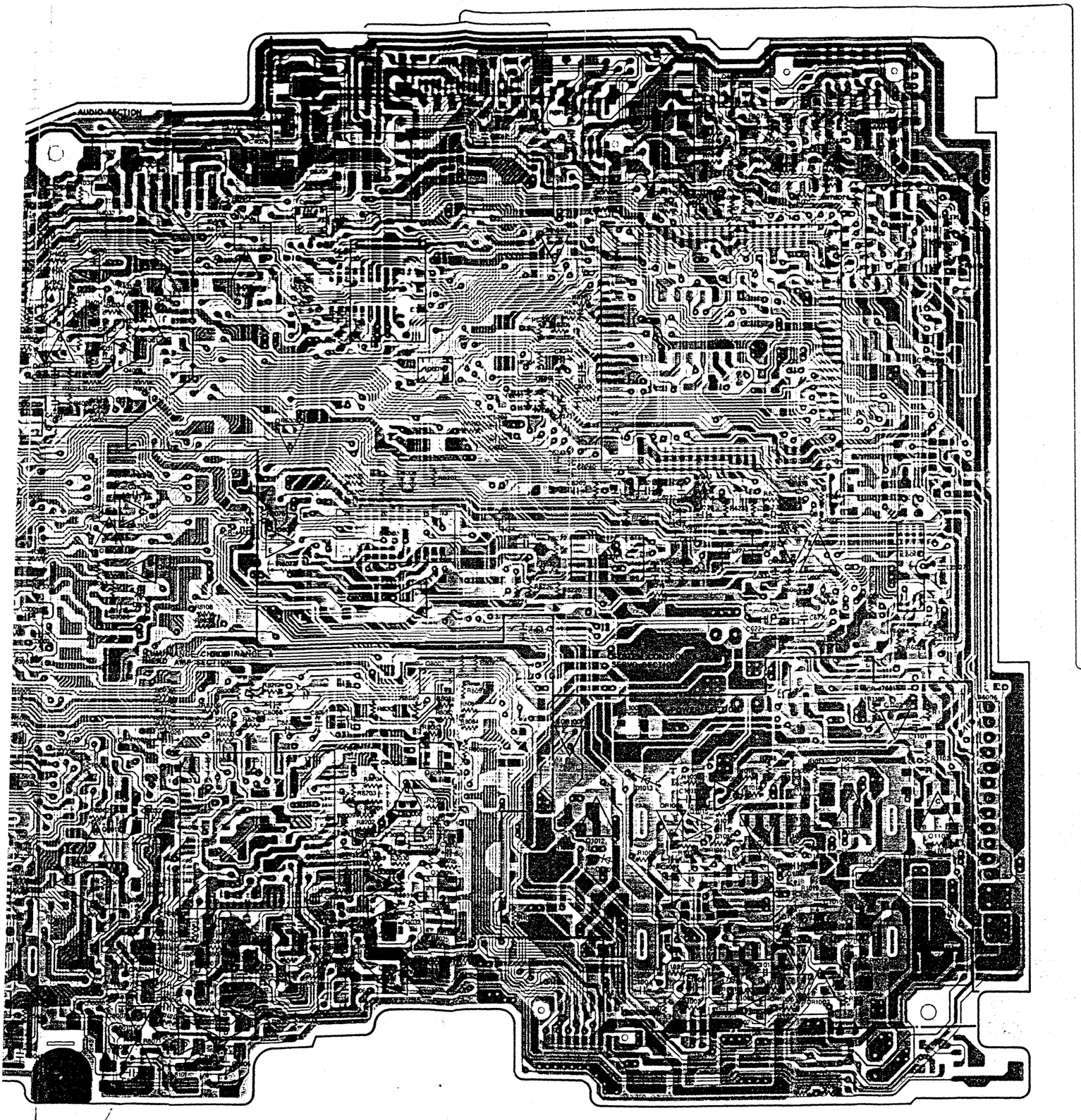
Hauptplatine (Stromversorgungs-, Systemsteuerungs-, Servo-, Luminanz- u. Farb-, Kopfverstärker- und Tonteil)
Main (Power, System Control, Servo, Luminance and Chrominance, Head Amp. and Audio Section) C.B.A.



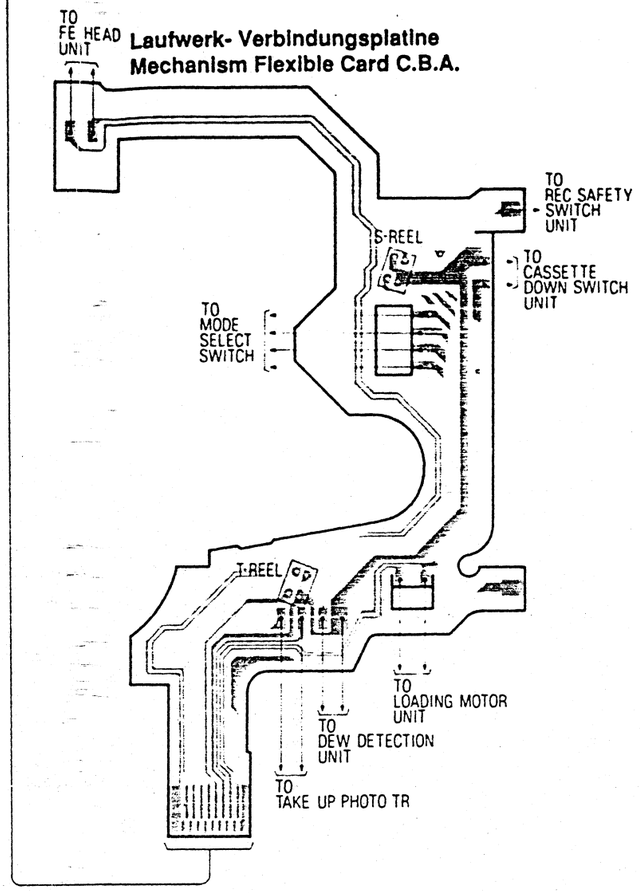
Bestückungsseite
Component side



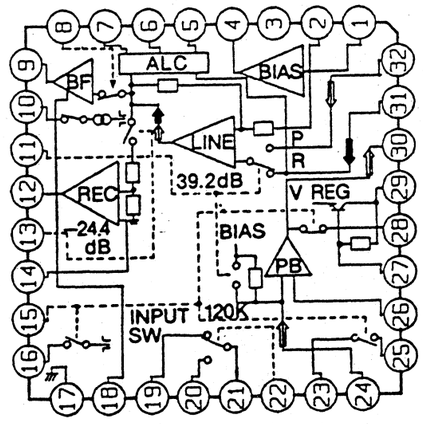
Lötseite
Foil side

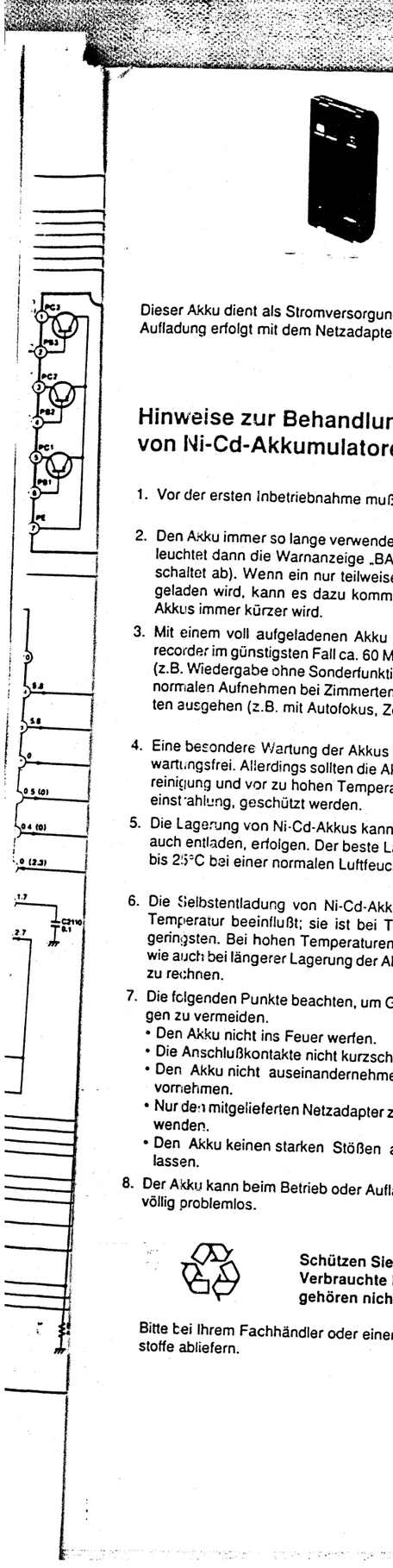


Laufwerk- Verbindungsplatine
Mechanism Flexible Card C.B.A.



IC4001 (BA7757BK)





AX-120 / 240

Technische Daten / Specifications:

AX-120 = 6V / 1,2Ah
AX-240 = 6V / 2,4Ah

Dieser Akku dient als Stromversorgung für den Camerarecorder. Die Aufladung erfolgt mit dem Netzadapter PC-100.

Hinweise zur Behandlung und Lagerung von Ni-Cd-Akkumulatoren

1. Vor der ersten Inbetriebnahme muß der Akku geladen werden.

2. Den Akku immer so lange verwenden, bis er ganz entladen ist (es leuchtet dann die Warnanzeige „BATT" und der Camerarecorder schaltet ab). Wenn ein nur teilweise entladener Akku wiederholt geladen wird, kann es dazu kommen, daß die Betriebszeit des Akkus immer kürzer wird.

3. Mit einem voll aufgeladenen Akku (AX-120) kann der Camerarecorder im günstigsten Fall ca. 60 Minuten lang betrieben werden (z.B. Wiedergabe ohne Sonderfunktionen). Jedoch darf man beim normalen Aufnehmen bei Zimmertemperatur nur von 35-45 Minuten ausgehen (z.B. mit Autofokus, Zoomen usw.).

4. Eine besondere Wartung der Akkus ist nicht erforderlich, sie sind wartungsfrei. Allerdings sollten die Akkus vor Feuchtigkeit, Verunreinigung und vor zu hohen Temperaturen, z.B. direkte Sonneneinstrahlung, geschützt werden.

5. Die Lagerung von Ni-Cd-Akkus kann in jedem Ladezustand, also auch entladen, erfolgen. Der beste Lagertemperaturbereich ist 0° bis 25°C bei einer normalen Luftfeuchtigkeit von ca. 50%.

6. Die Selbstentladung von Ni-Cd-Akkus wird sehr stark von der Temperatur beeinflußt; sie ist bei Temperaturen unter 0°C am geringsten. Bei hohen Temperaturen und hoher Luftfeuchtigkeit, wie auch bei längerer Lagerung der Akkus, ist mit Selbstentladung zu rechnen.

7. Die folgenden Punkte beachten, um Gefahren bzw. Beschädigungen zu vermeiden.
   - Den Akku nicht ins Feuer werfen.
   - Die Anschlußkontakte nicht kurzschließen.
   - Den Akku nicht auseinandernehmen oder Änderungen daran vornehmen.
   - Nur den mitgelieferten Netzadapter zum Aufladen der Akkus verwenden.
   - Den Akku keinen starken Stößen aussetzen und nicht fallen lassen.

8. Der Akku kann beim Betrieb oder Aufladen warm werden, dies ist völlig problemlos.

Schützen Sie die Umwelt !
Verbrauchte Batterien und Akkus gehören nicht in den Hausmüll !

Bitte bei Ihrem Fachhändler oder einer Sammelstelle für Sonderstoffe abliefern.

This battery pack serves for current supply of the camcorder. It is charged via the power adaptor PC-100.

Indications for treatment and storage of Ni-Cd accumulators

1. The battery pack must be charged before using it for the first time.
2. Always use the battery pack until it is discharged completely (until the warning indication "BATT" lights up and the camcorder switches off). Frequent charging of only partially discharged battery packs, may reduce the operating time of the battery.

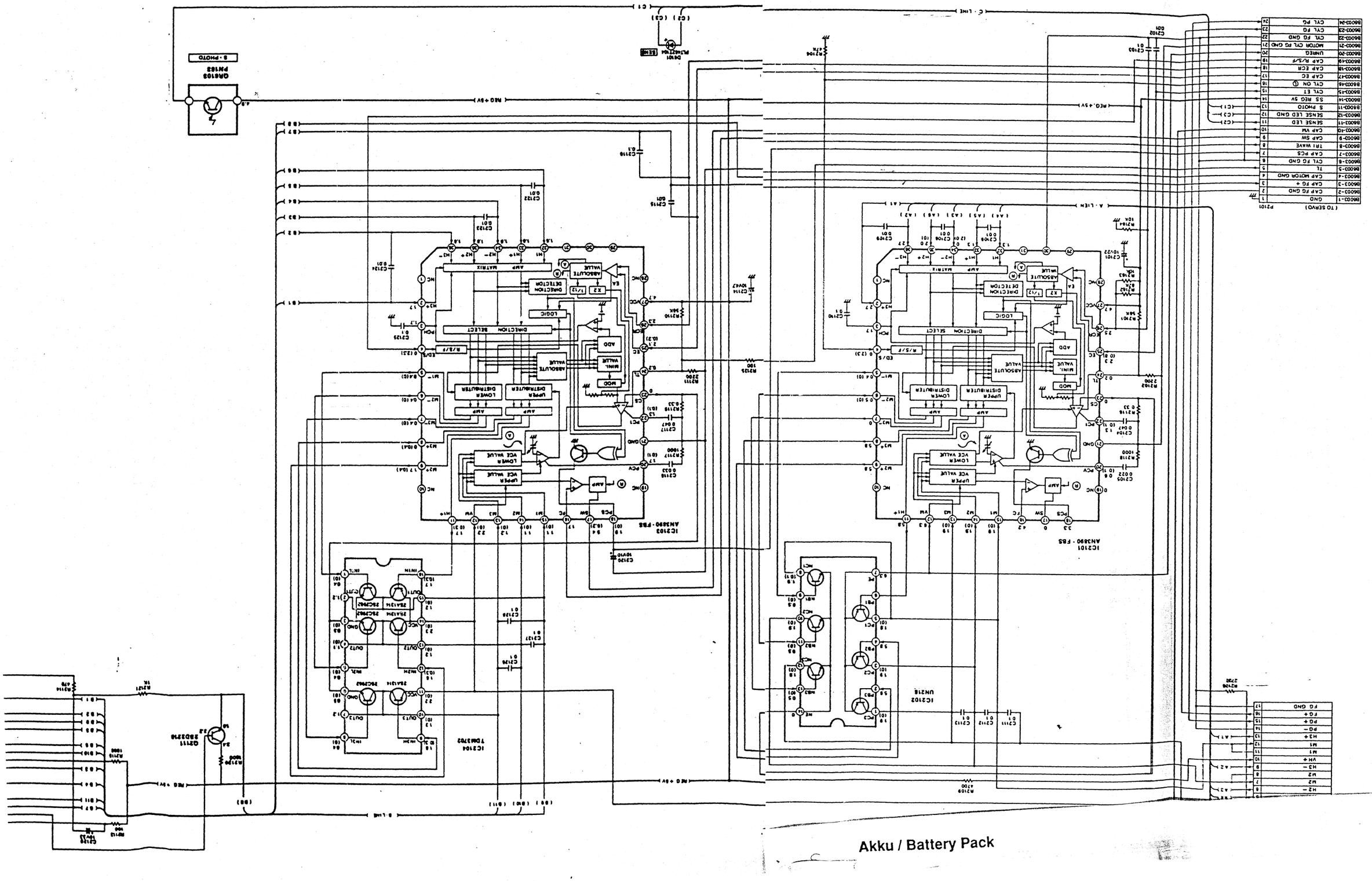
3. With a fully charged battery pack (AX-120), the camcorder can be used continuously for approx. 60 minutes under optimum conditions (for example, during playback without special functions). How-ever, for normal recording at room temperature (e. g. shooting with auto focus, zoom etc.) you should not expect more than 35-45 minutes.
4. The battery packs do not require spezial maintenance, they are maintenance-free. However, the battery packs should be protected from humidity, dirt and from high temperature, e. g. direct sunlight.
5. The Ni-Cd battery packs can be stored in any charging condition, including discharged condition. The optimum temperature range for storing is 0° to 25°C and a normal relative humidity of 50%.
6. The self-discharge of battery packs depends largely on the temperature; at temperatures below 0°C it is greatly minimized. At high temperatures and high humidity as well when storing for long periods, self-discharging may occur.

7. Pay attention to the following points to avoid danger or damage.
   - Do not throw the battery pack into fire.
   - Do not short-circuit the poles of the connector.
   - Do not disassamble or reconstruct the battery pack.
   - Use only the supplied AC adaptor to charge battery packs.
   - Never subject the battery packs to strong shocks or drop them.
8. During operation of the camcorder or during recharging, the battery pack may become warm. However, this does not pose any problem.

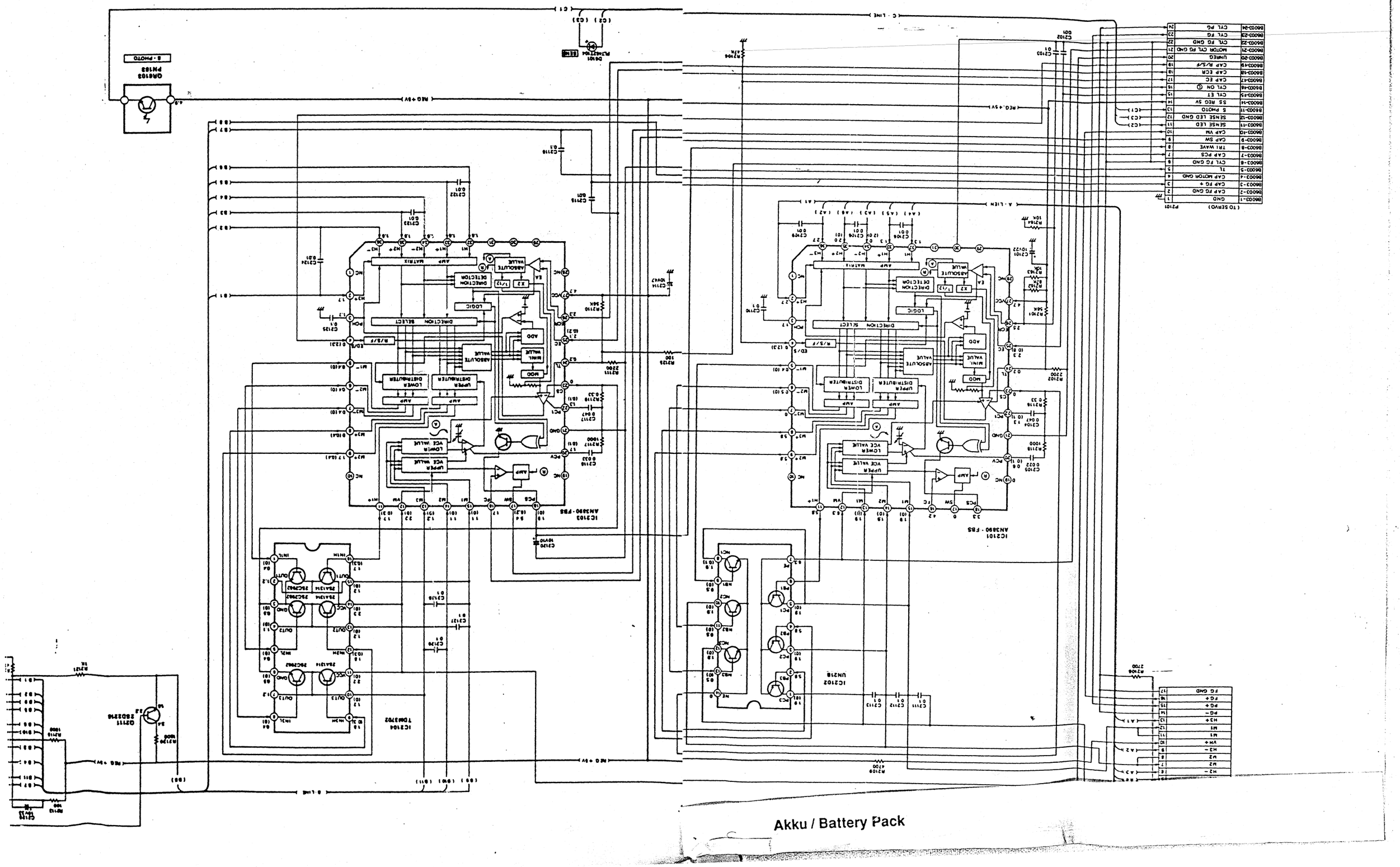
Protect the Environment !
Do not discard used batteries with your household rubbish !

Please return them to your dealer, or bring them to a collecting point for spezial substances.

Gleichspannungen Tol. ± 15 % mit Digitalm
gemessen. Ohne ( ) = Wiedergabe; mit ( )
DC voltages tol. ± 15 % measured with dig
GND. Without ( ) = Playback; with ( ) = Re

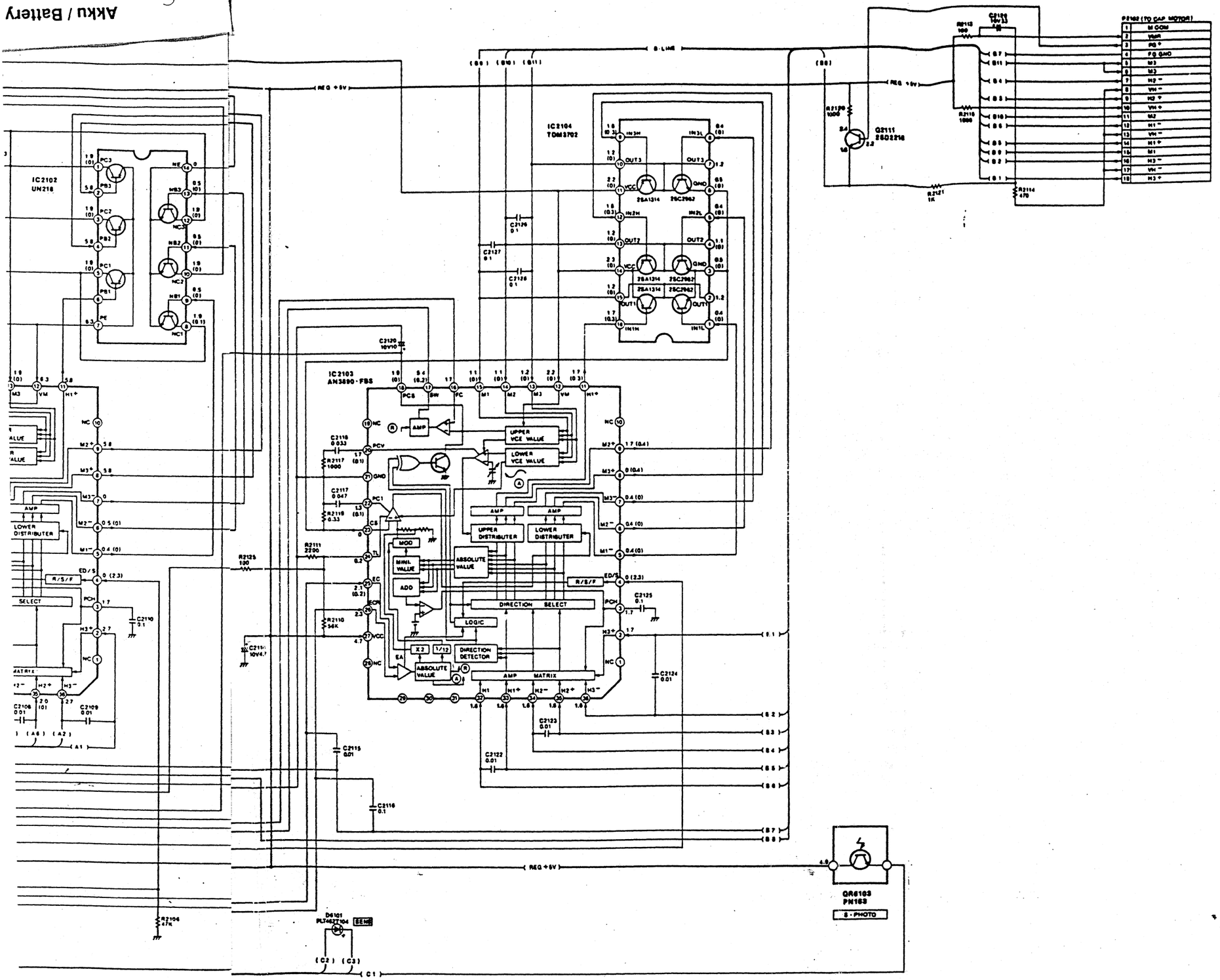


Gleichspannungen Tol. ± 15
gemessen. Ohne ( ) = Wied
DC voltages tol. ± 15 % mea
GND. Without ( ) = Playback;

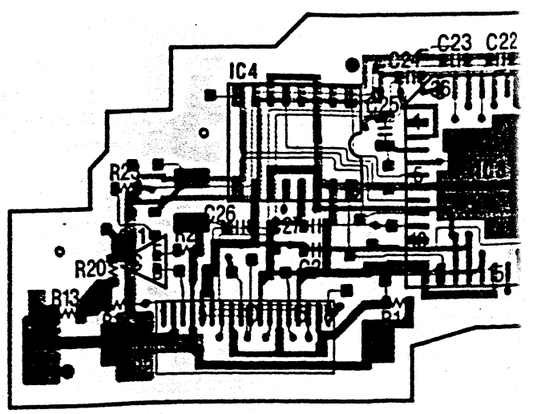


Platine des Kopftrommelmotor- Treiberte
Drive C.B.A.

Akku / Battery



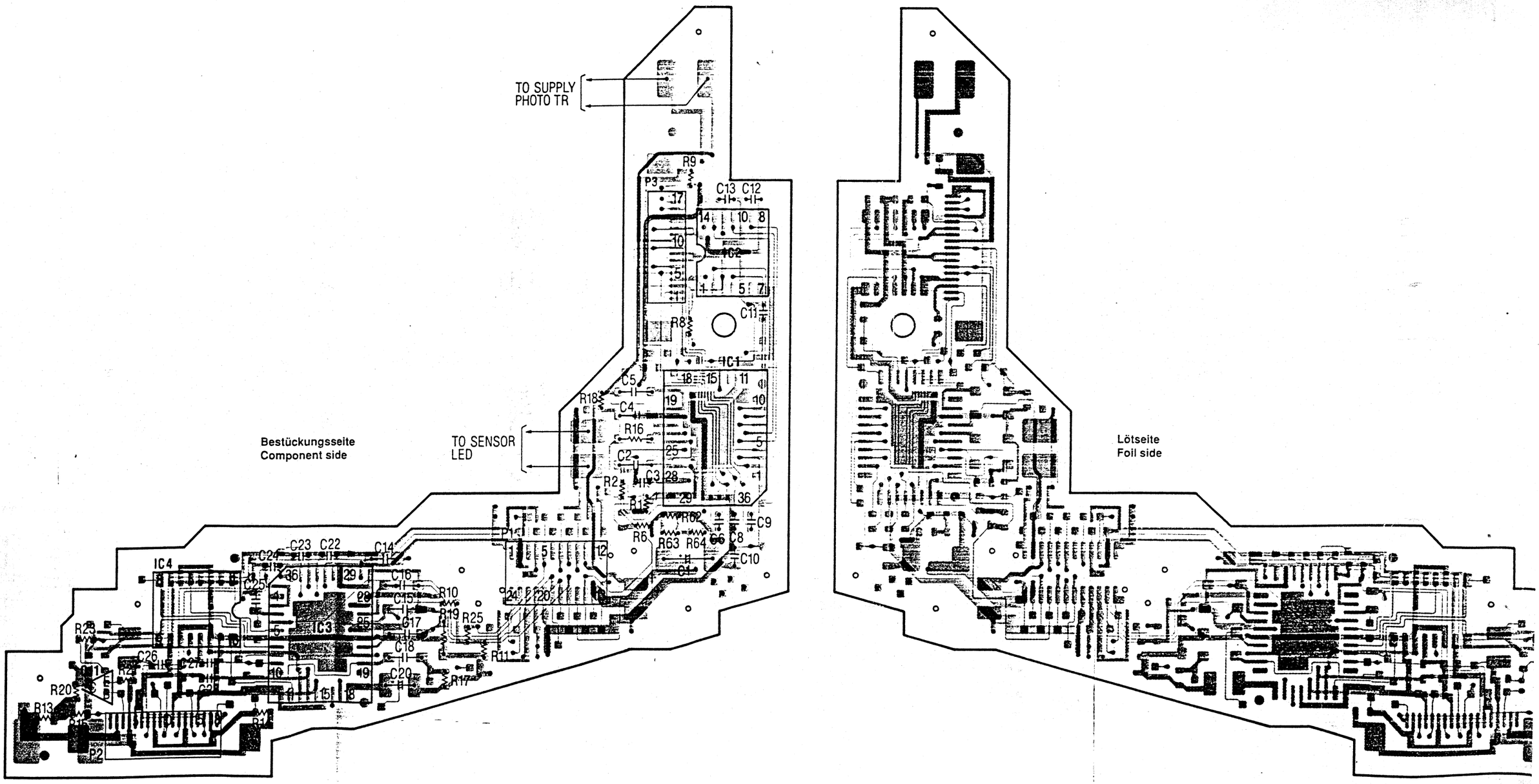
Bestückungsse
Component sid



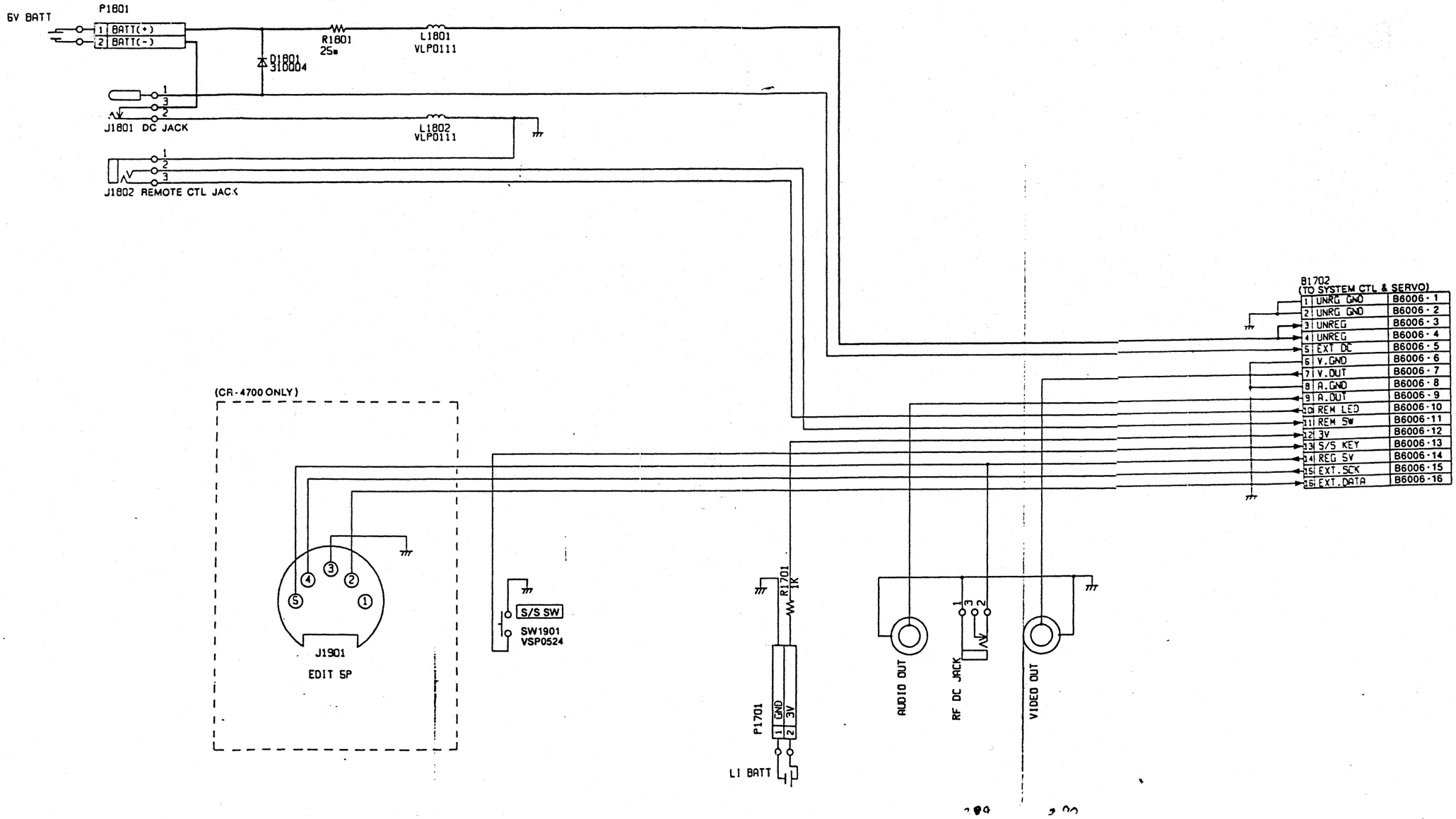
Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen. Ohne ( ) = Wiedergabe; mit ( ) = Aufnahme.

DC voltages tol. ± 15 % measured with digital voltmeter against GND. Without ( ) = Playback; with ( ) = Record.

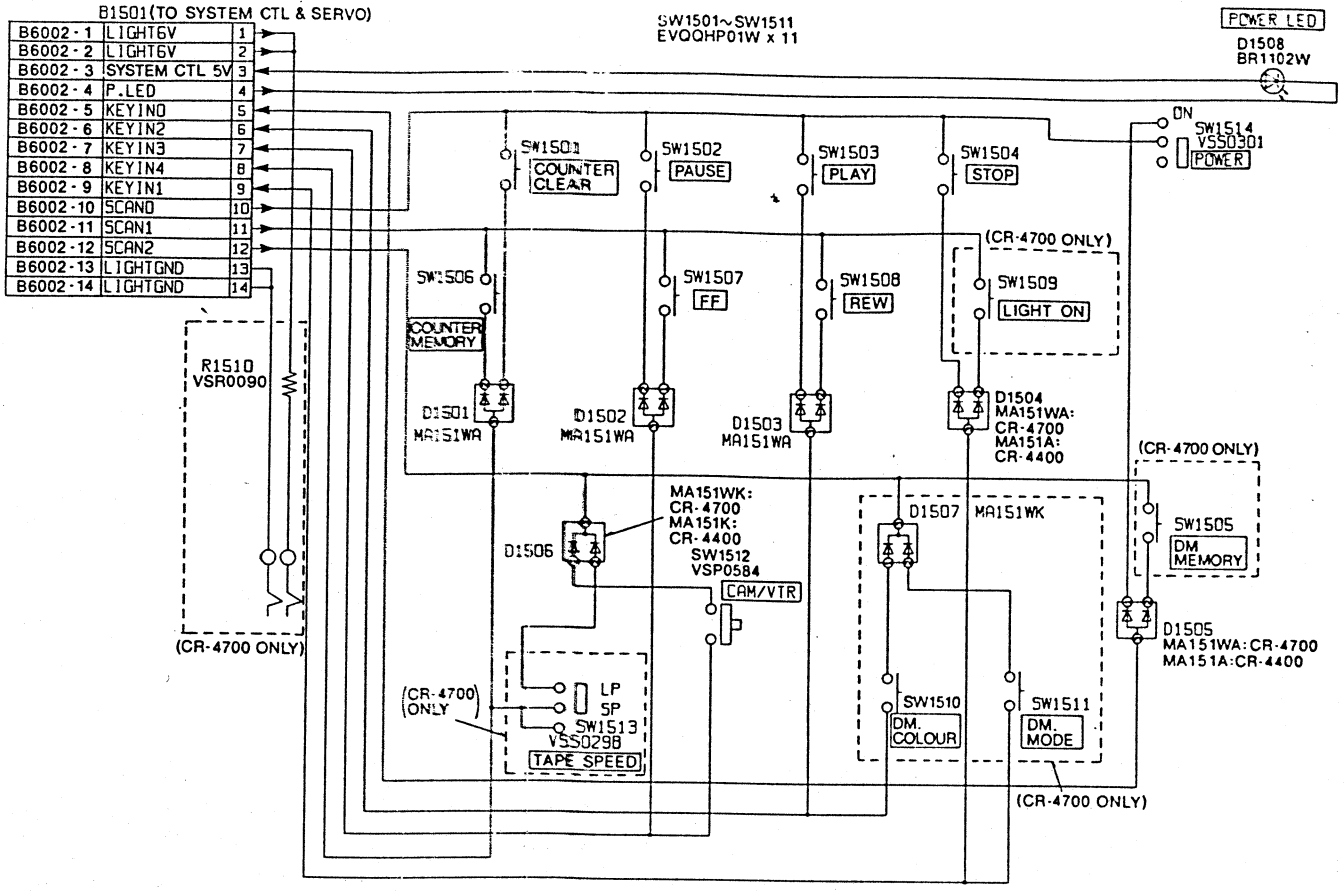
Platine des Kopftrommelmotor- Treiberteiles
Drive C.B.A.

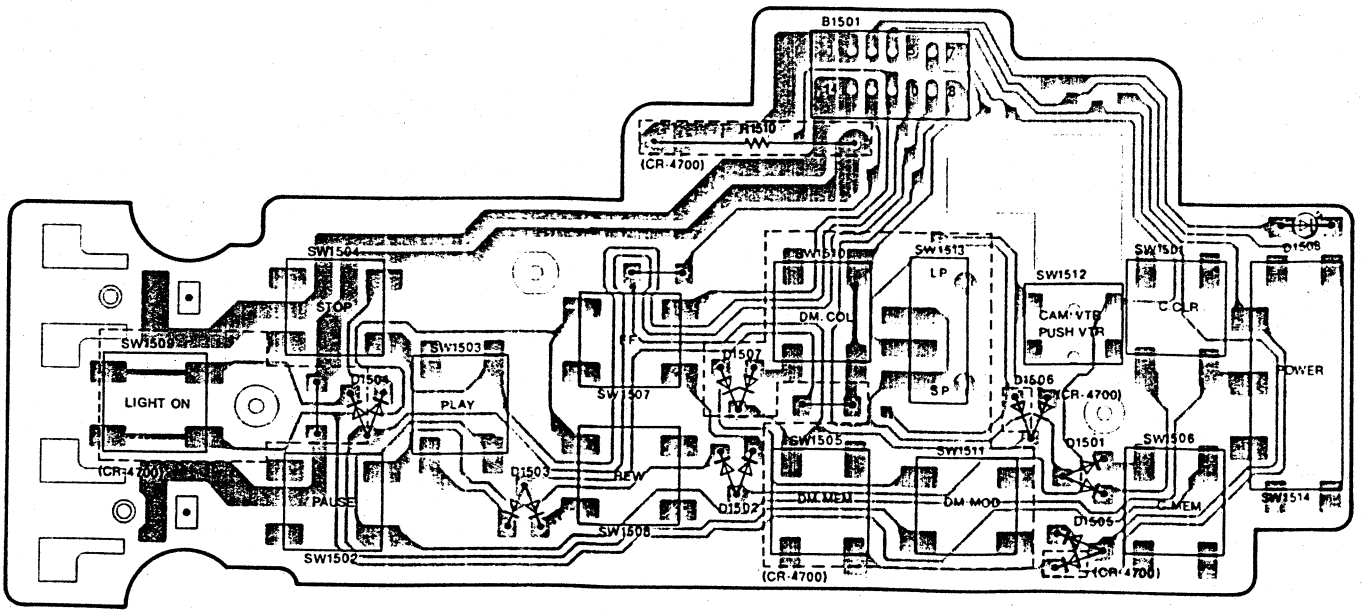


Schaltbild der Buchsenplatine
Jack Schematic Diagram

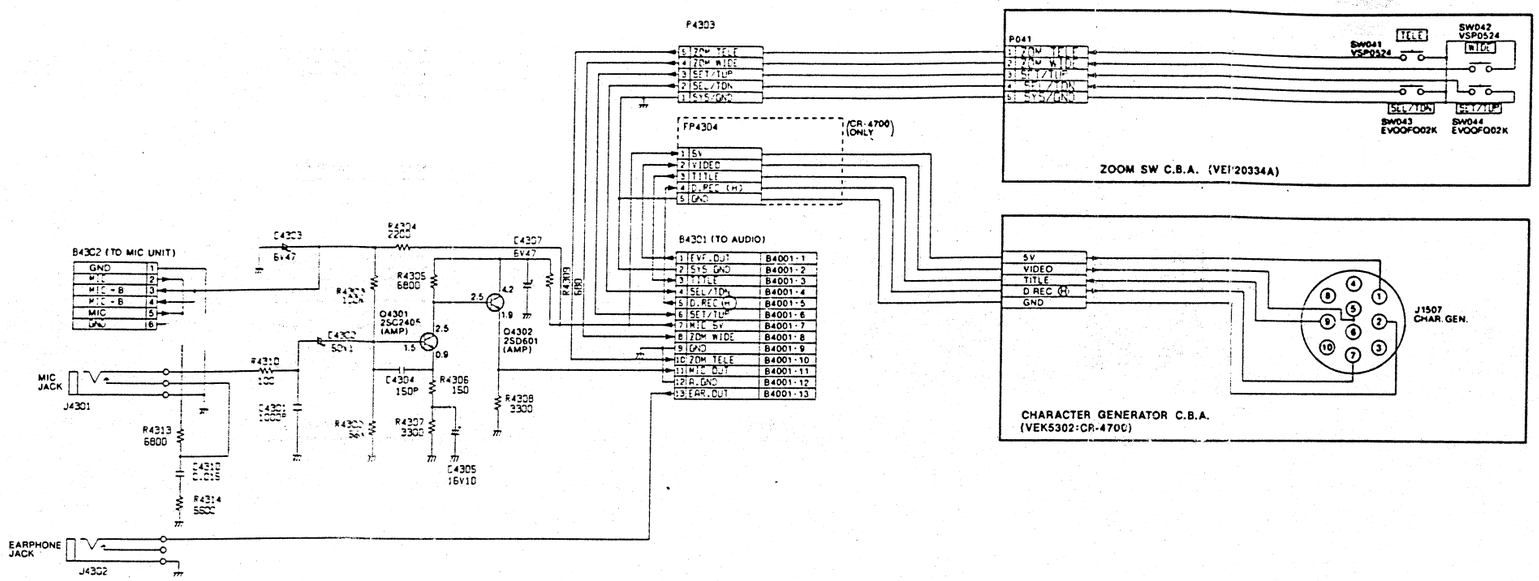


Schaltbild der Buchsenplatine
Jack Schematic Diagram


B1501(TO SYSTEM CTL & SERVO)
B6002-1 LIGHT6V 1
B6002-2 LIGHT6V 2
B6002-3 SYSTEM CTL 5V 3
B6002-4 P.LED 4
B6002-5 KEYIN0 5
B6002-6 KEYIN2 6
B6002-7 KEYIN3 7
B6002-8 KEYIN4 8
B6002-9 KEYIN1 9
B6002-10 SCAN0 10
B6002-11 SCAN1 11
B6002-12 SCAN2 12
B6002-13 LIGHTGND 13
B6002-14 LIGHTGND 14
SW1501~SW1511
EVQQHP01W x 11
POWER LED
D1508
BR1102W
ON
SW1514
VSS0301
POWER
SW1501
COUNTER CLEAR
SW1502
PAUSE
SW1503
PLAY
SW1504
STOP
(CR-4700 ONLY)
SW1506
COUNTER MEMORY
SW1507
FF
SW1508
REW
SW1509
LIGHT ON
R1510
VSR0090
D1501
MA151WA
D1502
MA151WA
D1503
MA151WA
D1504
MA151WA:
CR-4700
MA151A:
CR-4400
(CR-4700 ONLY)
MA151WK:
CR-4700
MA151K:
CR-4400
SW1512
VSP0584
D1506
CAM/VTR
D1507 MA151WK
SW1505
DM MEMORY
D1505
MA151WA:CR-4700
MA151A:CR-4400
(CR-4700 ONLY)
LP
SP
SW1513
VSS0298
TAPE SPEED
(CR-4700 ONLY)
SW1510
DM. COLOUR
SW1511
DM. MODE
(CR-4700 ONLY)

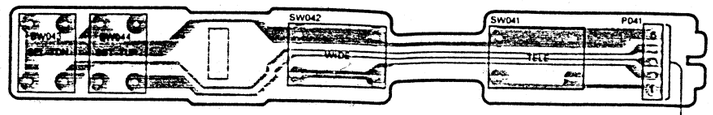

B1501
R1510
(CR-4700)
SW1504
STOP
SW1509
LIGHT ON
SW1503
PLAY
D1506
SW1507
FF
D1507
DM. COL
SW1510
SW1513
LP
SP
SW1512
CAM:VTR
PUSH VTR
SW1501
C.CLR
D1508
POWER
D1506
(CR-4700)
D1501
SW1506
SW1505
SW1511
DM MEM
DM MOD
C.MEM
SW1514
D1505
(CR-4700)
(CR-4700)
PAUSE
SW1502
D1503
REW
SW1508
D1502
(CR-4700)
(CR-4700)

Schaltbild der Mikrofon- Anschlußplatine
Mic Interface Schematic Diagram

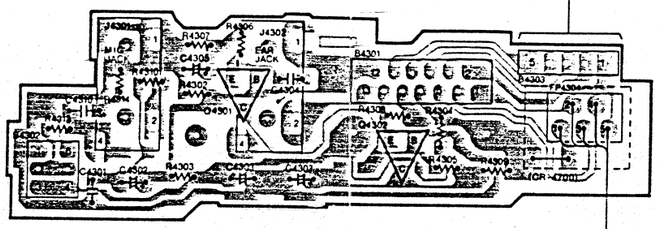


Mikrofon- Anschlußplatine
Mic Interface C.B.A.

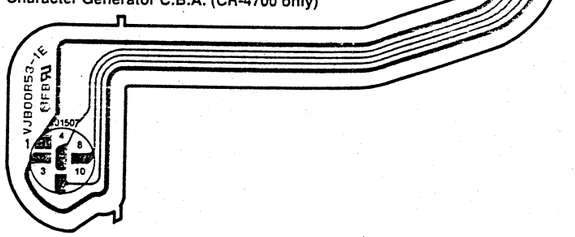
Zoom-Schalterplatine
Zoom Sw. C.B.A.

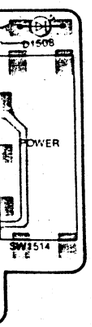


Mikrofon- Anschlußplatine
Mic Interface C.B.A.



Titelgenerator- Anschlußplatine (nur CR-4700)
Character Generator C.B.A. (CR-4700 only)



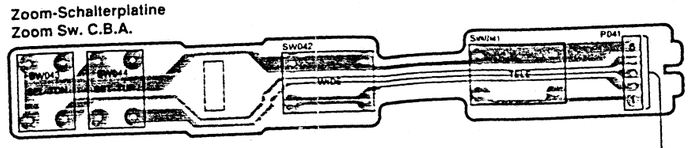


Gleichspannungen Tol. ± 15 % mit Digitalvoltmeter gegen Masse gemessen (Betriebsart Stop).

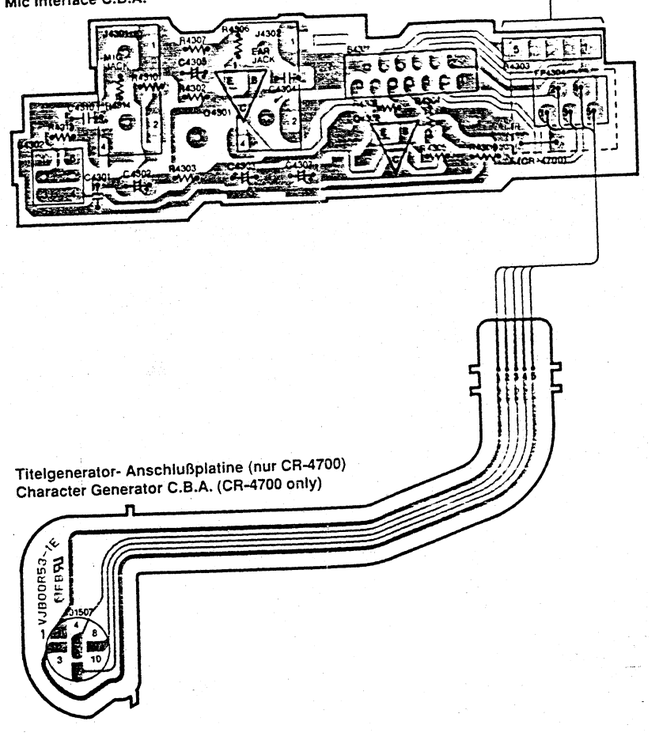
DC voltages tol. ± 15 % measured with digital voltmeter against GND /Stop mode).

Mikrofon- Anschlußplatine
Mic Interface C.B.A.

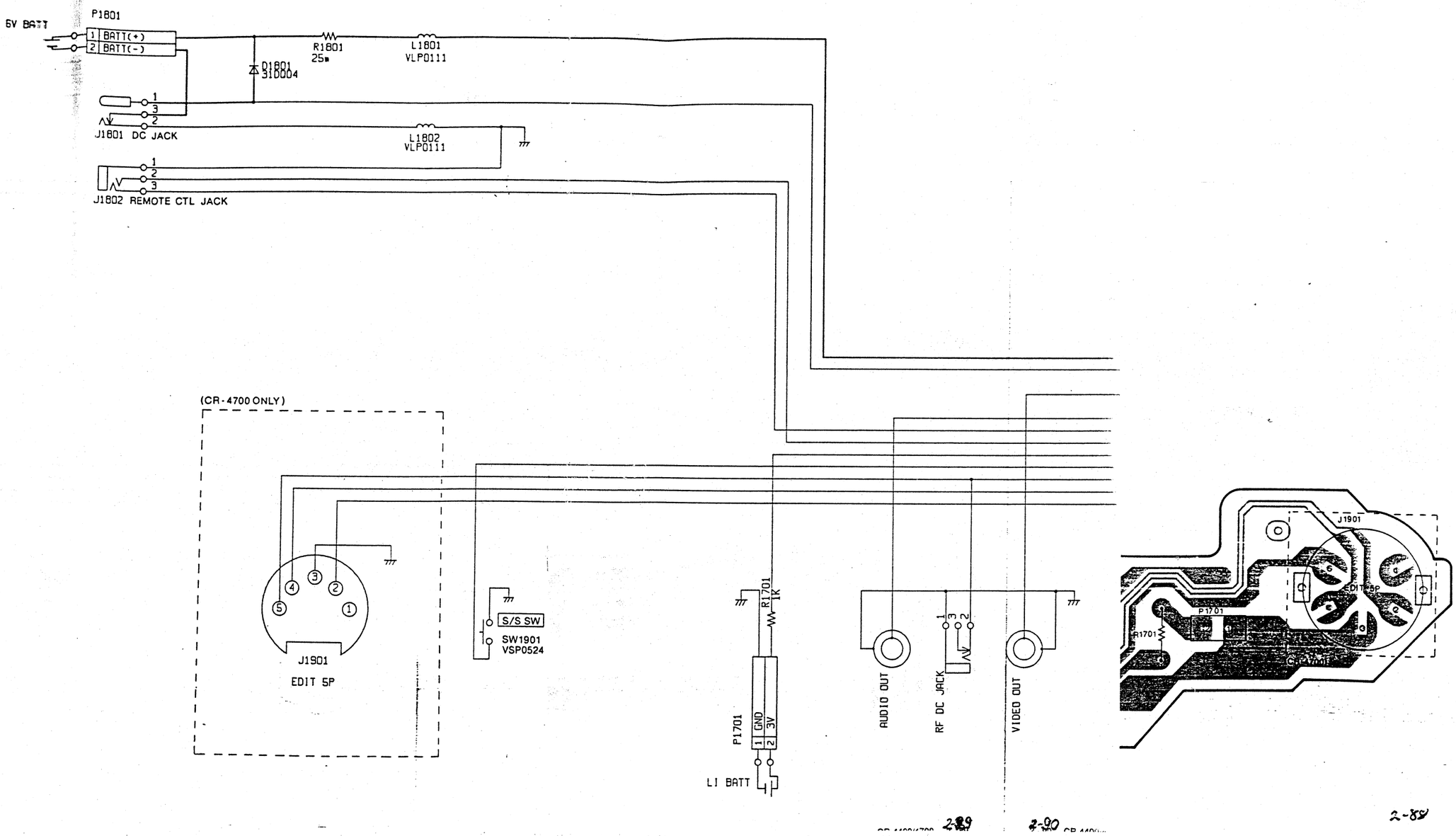
Zoom-Schalterplatine
Zoom Sw. C.B.A.



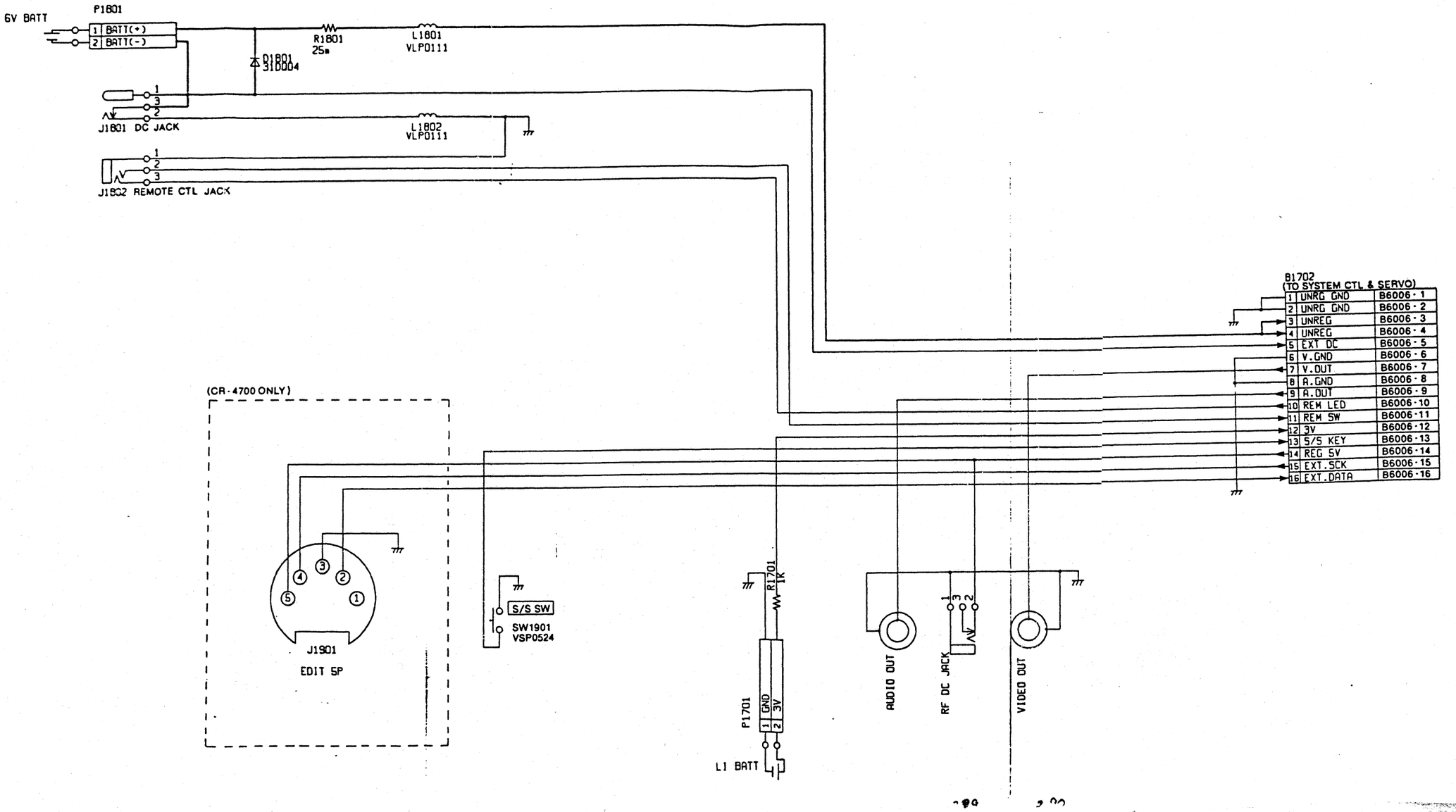
Mikrofon- Anschlußplatine
Mic Interface C.B.A.



Schaltbild der Buchsenplatine
Jack Schematic Diagram

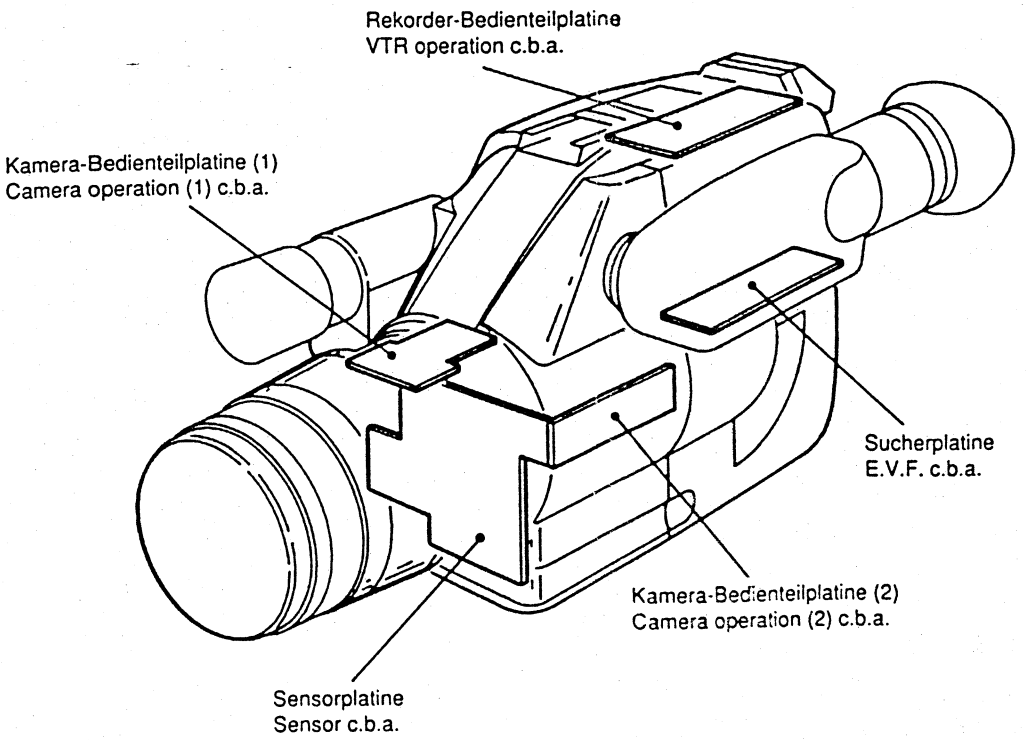


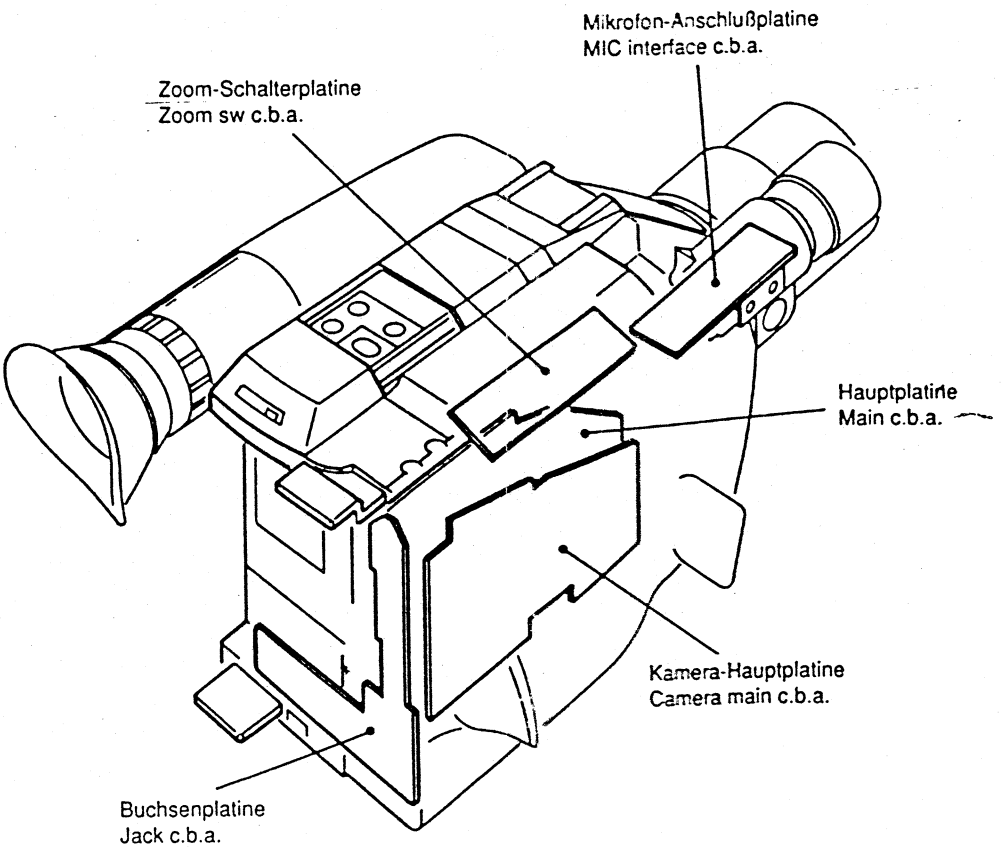
Schaltbild der Buchsenplatine
Jack Schematic Diagram



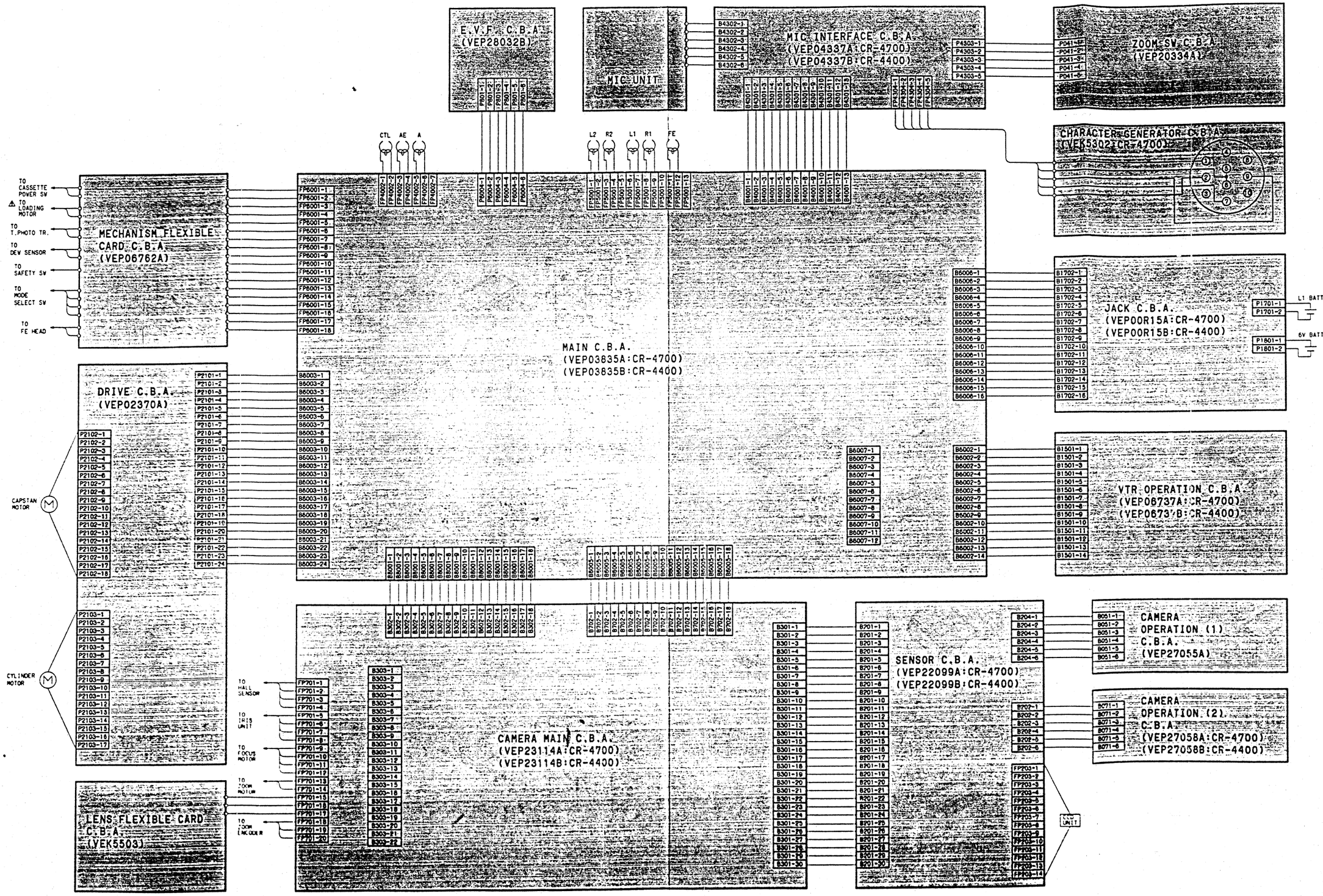
Schaltbild der Buchsenplatine
Jack Schematic Diagram

Lage der Platinen im Gerät
Position of C.B.A.'s inside the Unit





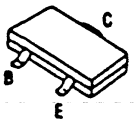
Verdrahtungsplan
Interconnection Schematic Diagram



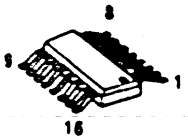
⚠ Sicherheitsbauelement (muß durch Originalteil ersetzt werden)
Security component (must be replaced by original parts)

Halbleiter- Anschlußpunkte
Semi Conductor Connection Points

S8420BF
TL8809F
LM393DB
LM311DB
LM358DB



2SA1610 2SC4626
2SA812 2SC2404
2SA1532 2SC4627
2SB1219 2SC4176
2SB1462 2SC3933
2SB1220 2SD2216
2SB970 2SD968A
2SB1218 2SD1823



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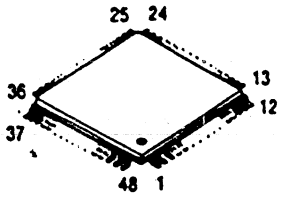
AN2012SB
AN6664S
AN2514S
TDM3702



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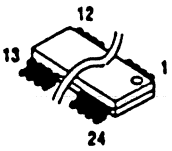
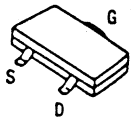


AN2355S



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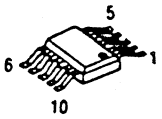

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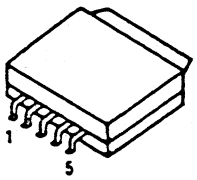
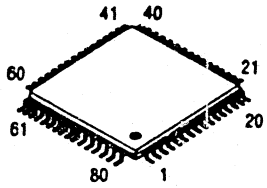


AN6545SP
AN6663SP



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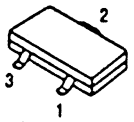

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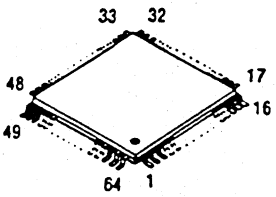

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MN5145FHP
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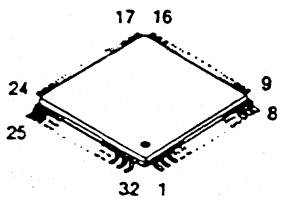

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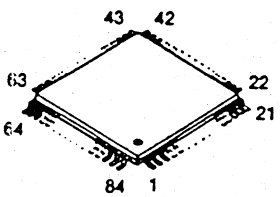

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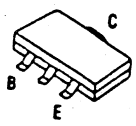

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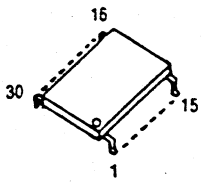
2SB1073
2SD2210
2SD1119



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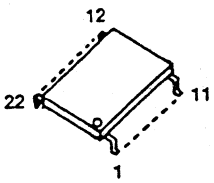

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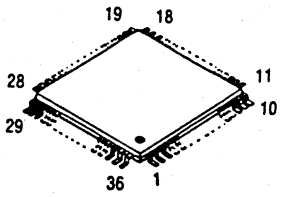

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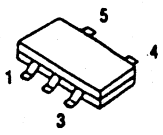

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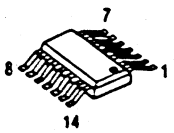

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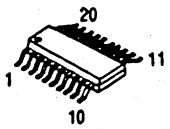
LM2902V
MB3778PF
S3500A3
LM324DB
LM339DB
MC14066BFR
UN218CU



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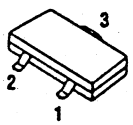

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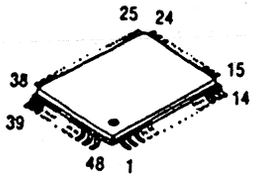

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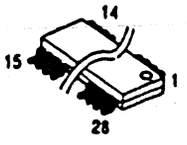

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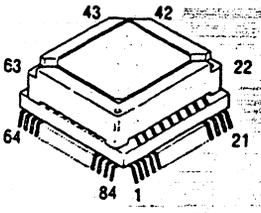

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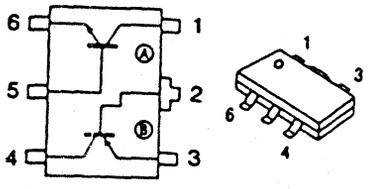

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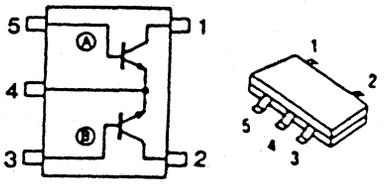
XN4608



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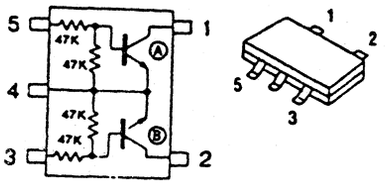
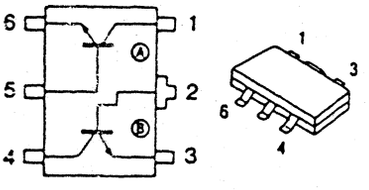
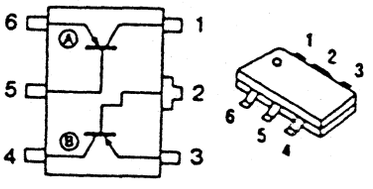


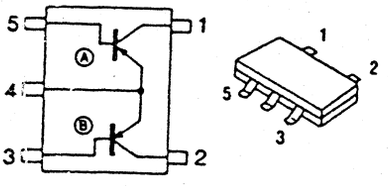
XN1213



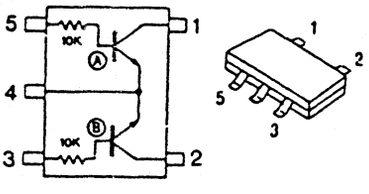
XN4501
XN4504
XP4501



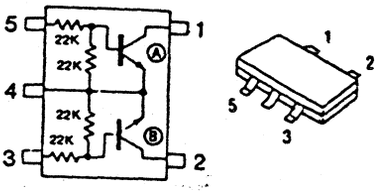
XN4401
XP4401



XP1401



XP1215



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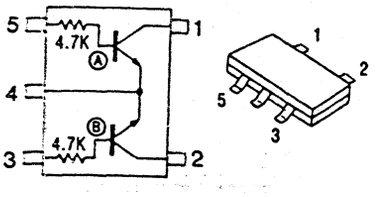
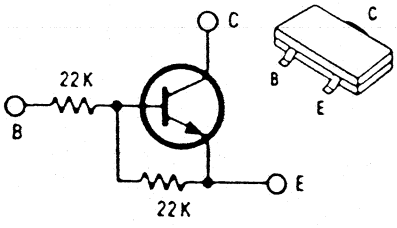
XP1212
XN9212



XN1216

Halbleiter- Anschlußpunkte
Semi Conductor Connection Points



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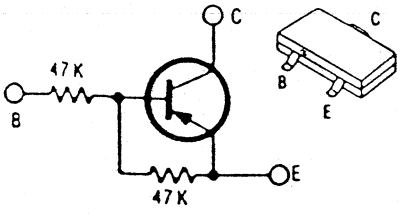

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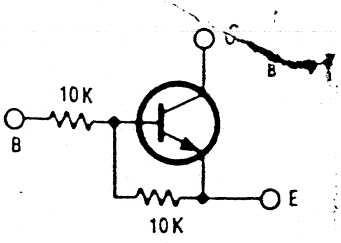

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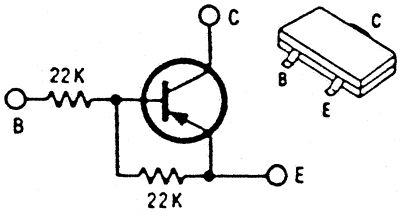

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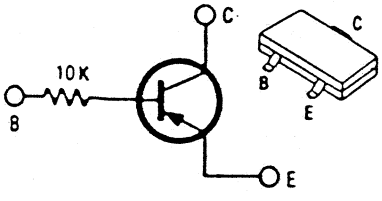

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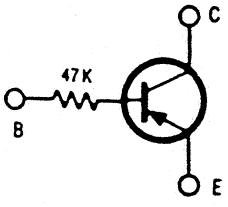

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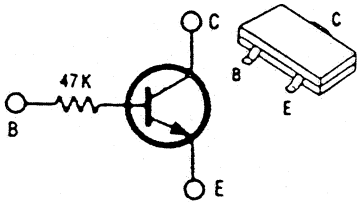

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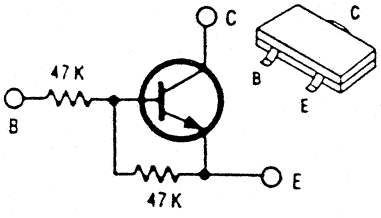

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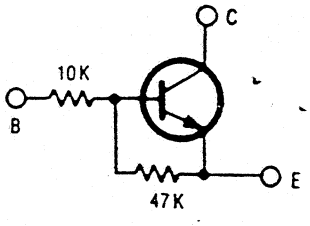

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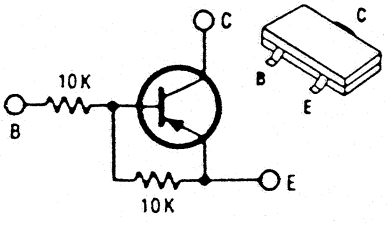

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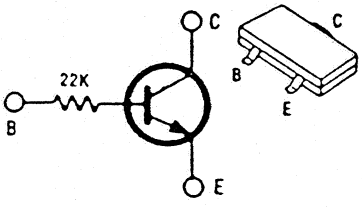
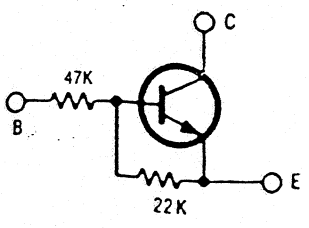
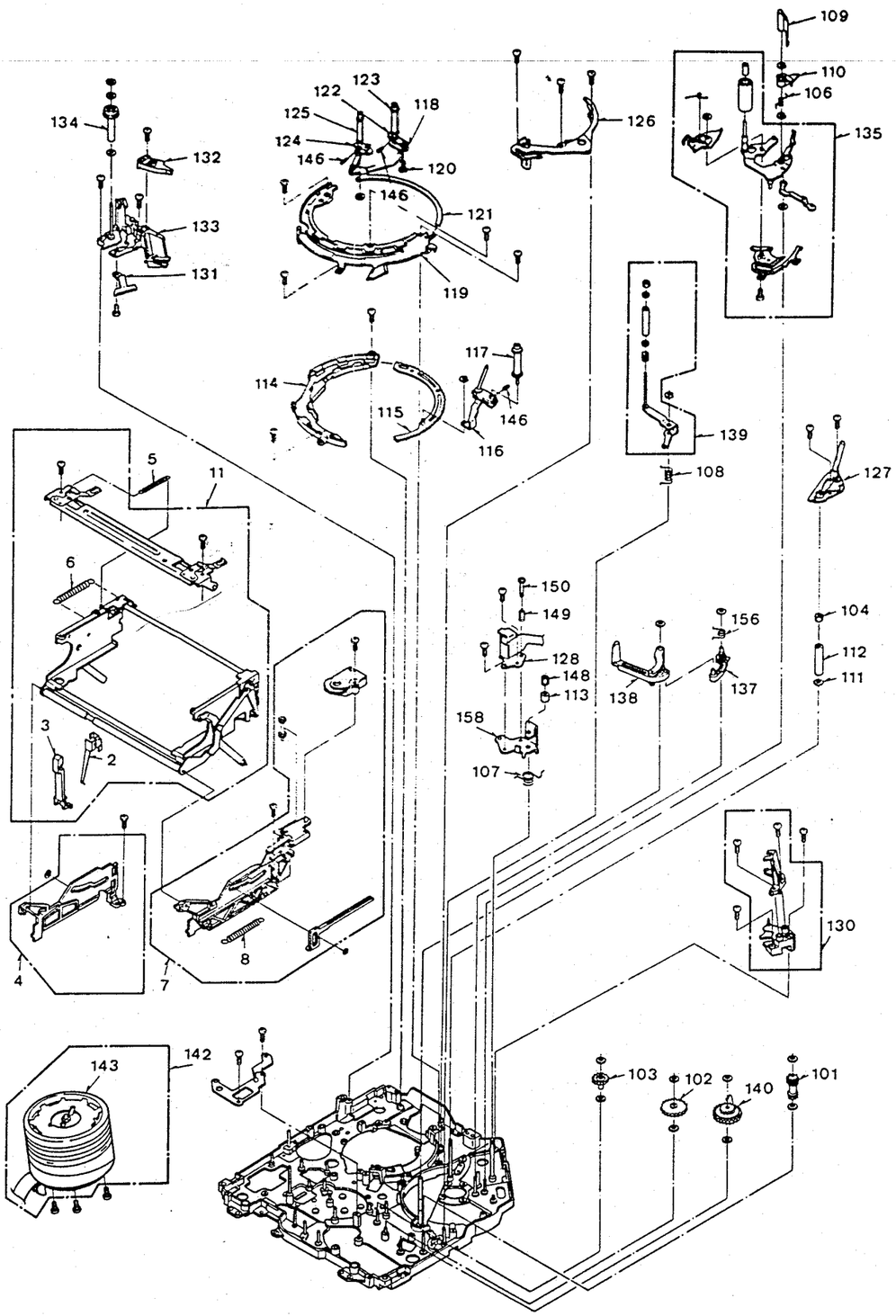


UN9217



UN921E

Explosionszeichnung (1) Laufwerkteile
Exploded View (1) VTR Mechanism Parts



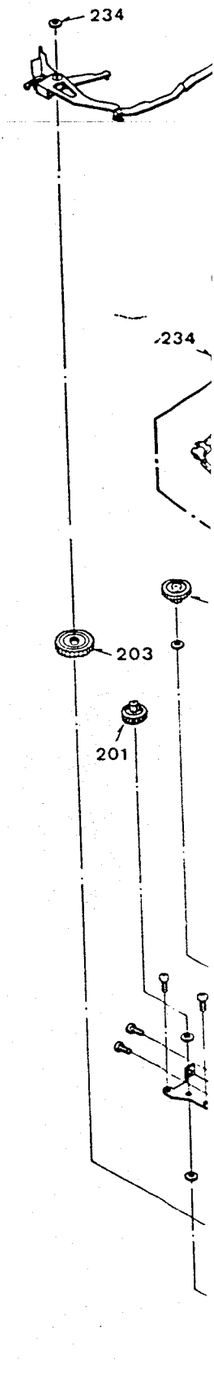
ET-Liste zur Explo Nr. 1
Spare parts List to Explo Nr. 1

Lfd. Nr. Item no.	Bestell-Nr. Part no.
2	8 619 510 661
3	8 619 580 188
4	8 619 510 532
5	8 619 510 635
6	8 619 510 633
7	8 619 590 265
8	8 619 510 634
11	8 619 590 266
101	8 619 510 465
102	8 619 510 466
103	8 619 510 467
104	8 619 590 267
106	8 619 510 640
107	8 619 510 641
108	8 619 510 642
109	8 619 590 268
110	8 619 580 218
111	8 619 510 587
112	8 619 510 474
113	8 619 510 472
114	8 619 580 219
115	8 619 580 220
116	8 619 580 221
117	8 619 580 222
118	8 619 580 223
119	8 619 580 224
120	8 619 510 525
121	8 619 510 476
122	8 619 510 489
123	8 619 510 477
124	8 619 510 490
125	8 619 510 478
126	8 619 510 588
127	8 619 510 493
128	8 619 530 615
130	8 619 510 496
131	8 619 510 652
132	8 619 510 589
133	8 619 510 590
134	8 619 510 488
135	8 619 510 483
137	8 619 510 486
138	8 619 510 591
139	8 619 510 485
140	8 619 510 473
142	8 619 530 617
142 (CR 4400)	8 619 530 621
143	8 619 530 616
143 (CR 4400)	8 619 530 622
146	8 619 510 522
148	8 619 410 501
149	8 619 510 622
150	8 619 510 510
156	8 619 510 654
158	8 619 510 494

ET-Liste zur Explo Nr. 2
Spare parts List to Explo Nr. 2

Lfd. Nr. Item no.	Bestell-Nr. Part no.
201	8 619 510 454
202	8 619 510 455
203	8 619 510 456
204	8 619 510 457
205	8 619 510 458
206	8 619 510 580
207	8 619 520 409
209	8 619 510 428
210	8 619 510 468
211	8 619 590 269
212	8 619 580 209
213	8 619 580 210
214	8 619 580 211
215	8 619 510 460
216	8 619 530 607
217	8 619 510 644
218	8 619 510 429
219	8 619 510 582
221	8 619 580 215
222	8 619 580 216
223	8 619 510 583
224	8 619 510 462
225	8 619 510 463
229	8 619 510 584
230	8 619 510 585
231	8 619 510 556
232	8 619 414 211
234	8 619 414 401
237	8 619 510 526
242	8 619 510 557

Explosionszeich
Exploded View



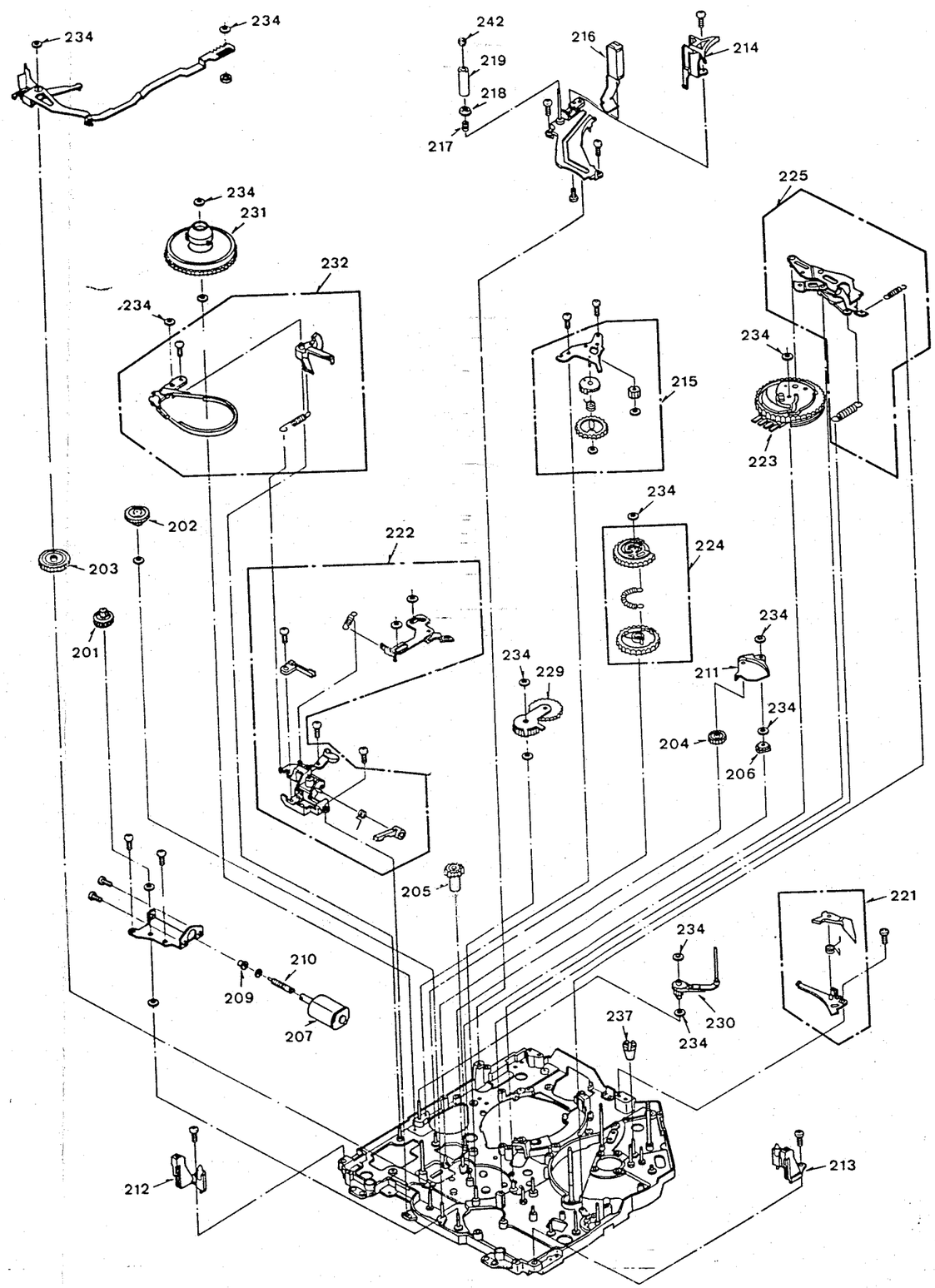
ET-Liste zur Explo Nr. 1
Spare parts List to Explo Nr. 1

Lfd. Nr. Item no.		Bestell-Nr. Part no.
2		8 619 510 661
3		8 619 580 188
4		8 619 510 532
5		8 619 510 635
6		8 619 510 633
7		8 619 590 265
8		8 619 510 634
11		8 619 590 266
101		8 619 510 465
102		8 619 510 466
103		8 619 510 467
104		8 619 590 267
106		8 619 510 640
107		8 619 510 641
108		8 619 510 642
109		8 619 590 268
110		8 619 580 218
111		8 619 510 567
112		8 619 510 474
113		8 619 510 472
114		8 619 580 219
115		8 619 580 220
116		8 619 580 221
117		8 619 580 222
118		8 619 580 223
119		8 619 580 224
120		8 619 510 525
121		8 619 510 476
122		8 619 510 489
123		8 619 510 477
124		8 619 510 490
125		8 619 510 478
126		8 619 510 568
127		8 619 510 493
128		8 619 530 615
130		8 619 510 496
131		8 619 510 652
132		8 619 510 589
133		8 619 510 590
134		8 619 510 488
135		8 619 510 483
137		8 619 510 486
138		8 619 510 591
139		8 619 510 485
140		8 619 510 473
142		8 619 530 617
142	(CR 4400)	8 619 530 621
143		8 619 530 616
143	(CR 4400)	8 619 530 622
146		8 619 510 522
148		8 619 410 501
149		8 619 510 622
150		8 619 510 510
156		8 619 510 654
158		8 619 510 494

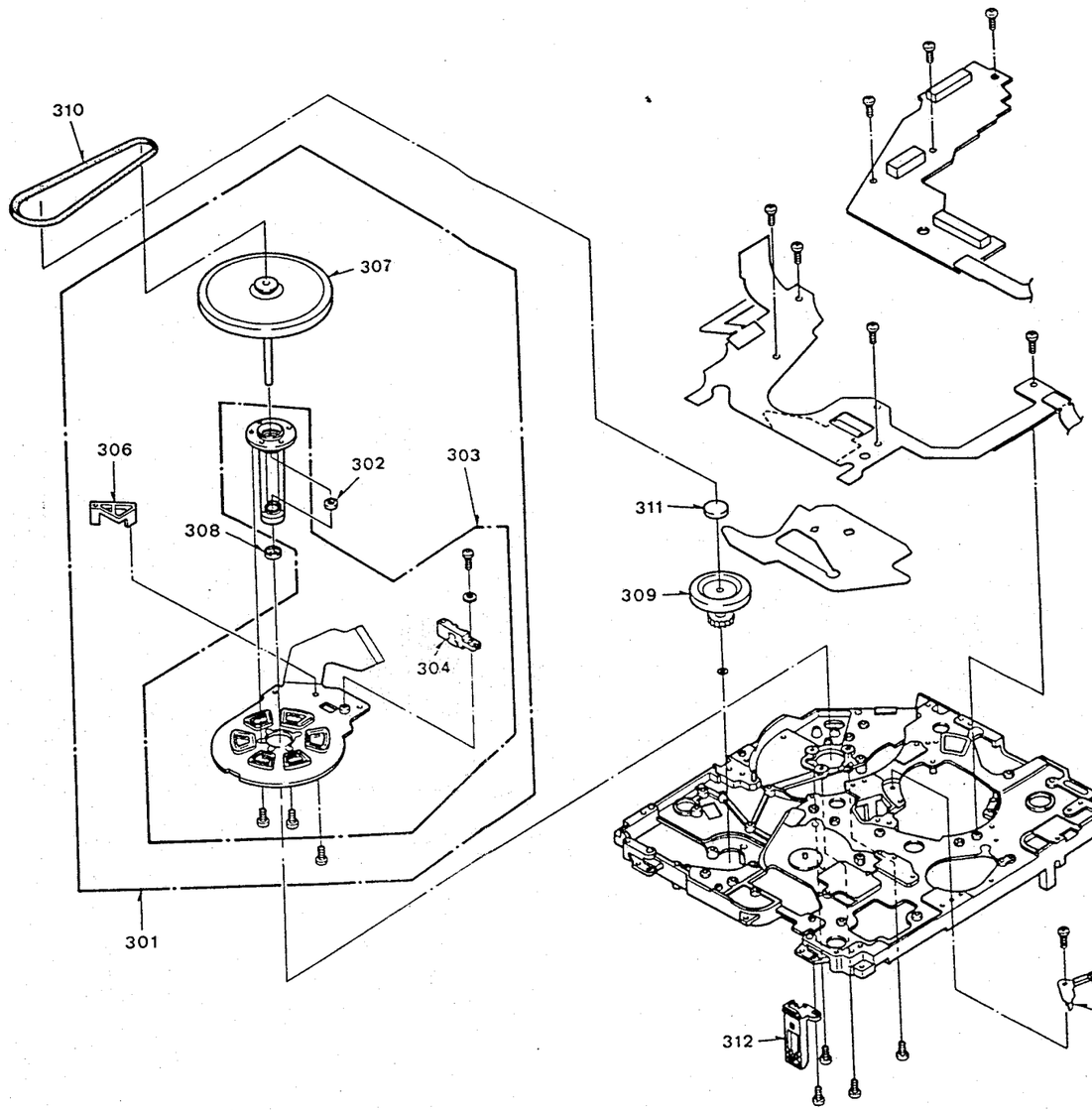
ET-Liste zur Explo Nr. 2
Spare parts List to Explo Nr. 2

Lfd. Nr. Item no.	Bestell-Nr. Part no.
201	8619510454
202	8619510455
203	8619510456
204	8619510457
205	8619510458
206	8619510580
207	8619520409
209	8619510428
210	8619510468
211	8619590269
212	8619580209
213	8619580210
214	8619580211
215	8619510460
216	8619530607
217	8619510644
218	8619510429
219	8619510582
221	8619580215
222	8619580216
223	8619510583
224	8619510462
225	8619510463
229	8619510584
230	8619510585
231	8619510556
232	8619414211
234	8619414401
237	8619510526
242	8619510557

Explosionszeichnung (2) Laufwerkteile
Exploded View (2) VTR Mechanism Parts

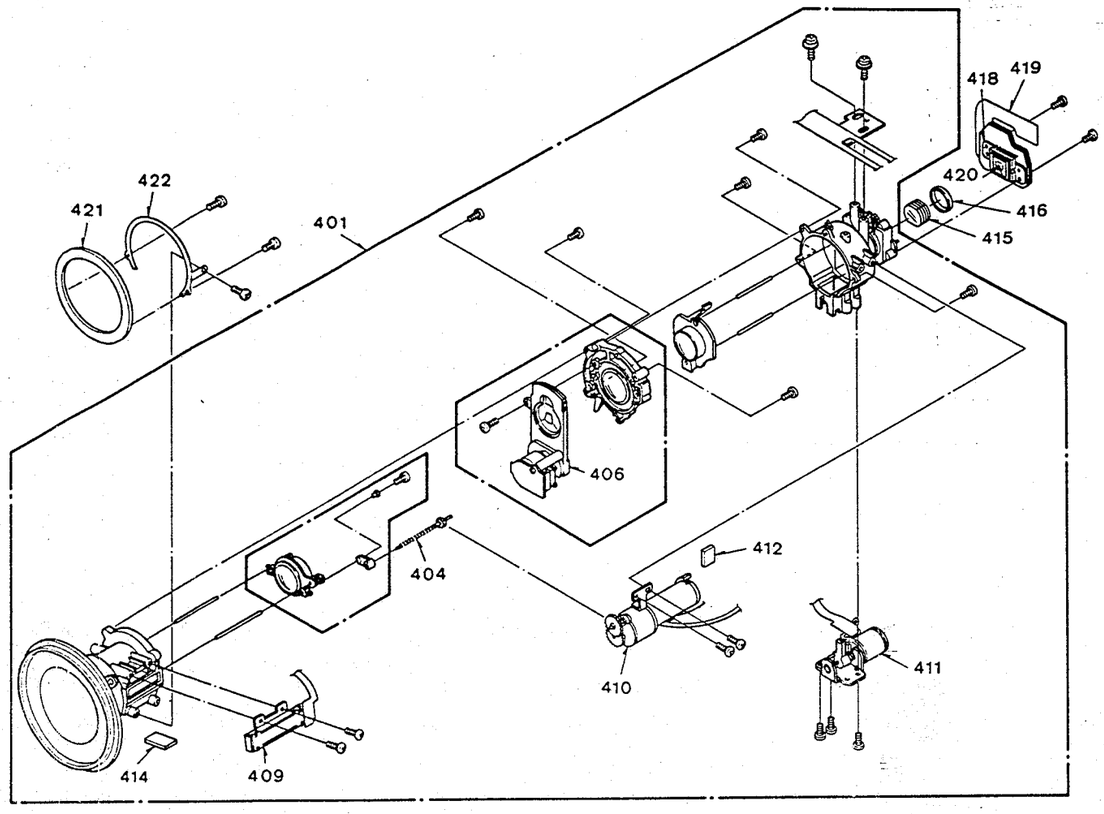


Explosionszeichnung (3) Laufwerkteile
Exploded View (3) VTR Mechanism Parts



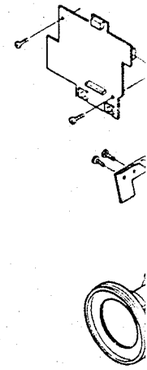
Lfd. Nr. Item no.	Bestell-Nr. Part no.
301	8 619 520 411
302	8 619 510 395
303	8 619 520 412
304	8 619 520 512
306	8 619 510 577
307	8 619 520 504
308	8 619 510 578
309	8 619 510 397
310	8 619 510 911
311	8 619 510 431
312	8 619 520 250
313	8 619 520 251

Explosionszeichnung (4) Objektivteile
Exploded View (4) Camera Lens Parts



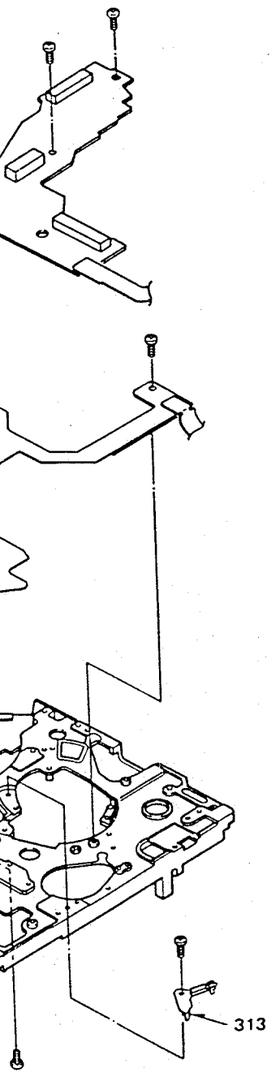
Lfd. Nr. Item no.	Bestell-Nr. Part no.
401	8 619 510 722
404	8 619 510 558
406	8 619 510 723
409	8 619 520 271
410	8 619 520 416
411	8 619 520 415
412	8 619 510 922
414	8 619 510 923
415	8 619 510 720
416	8 619 510 531
418	8 619 590 221
419	8 619 510 957
420	8 945 903 173
421	8 619 510 559
422	8 619 510 560

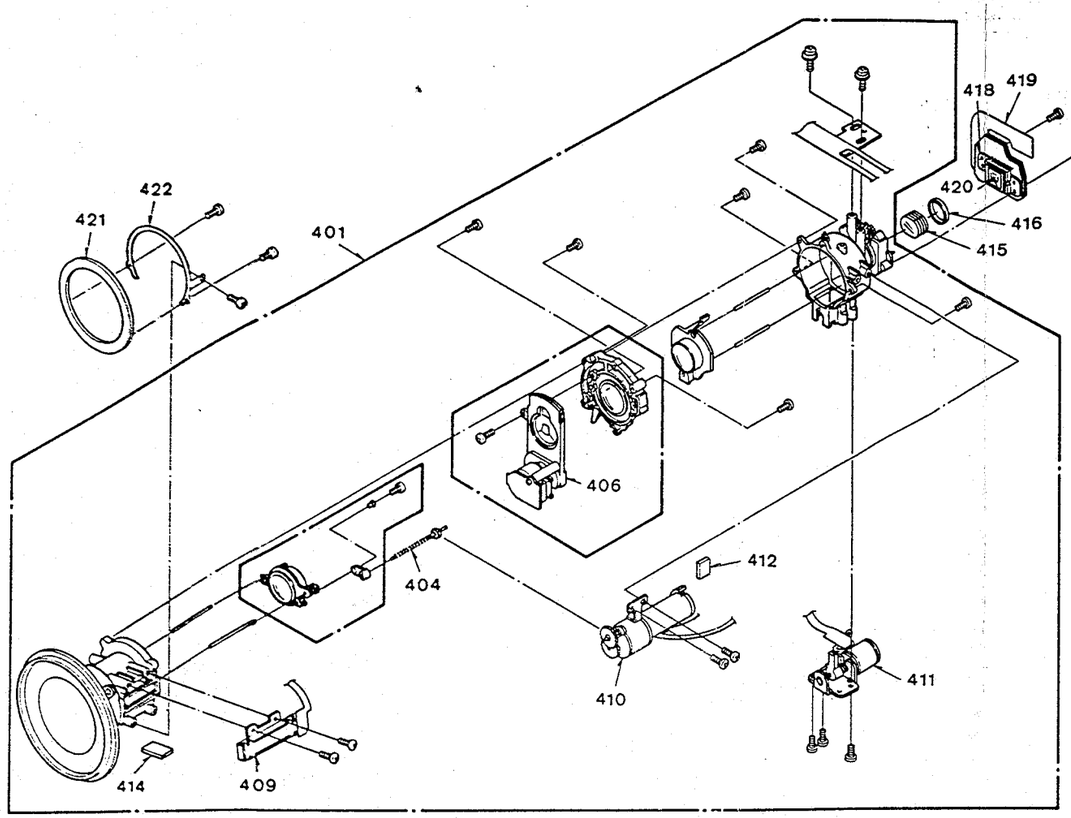
Explosionsze
Exploded Vie



Lfd. Nr. Item no.	Bes Part
500	8 61
501	8 61
501 (CR 4400)	8 61
502	8 61
503	8 61
503 (CR 4400)	8 61
504	8 61
505	8 61
506	8 61
507	8 61

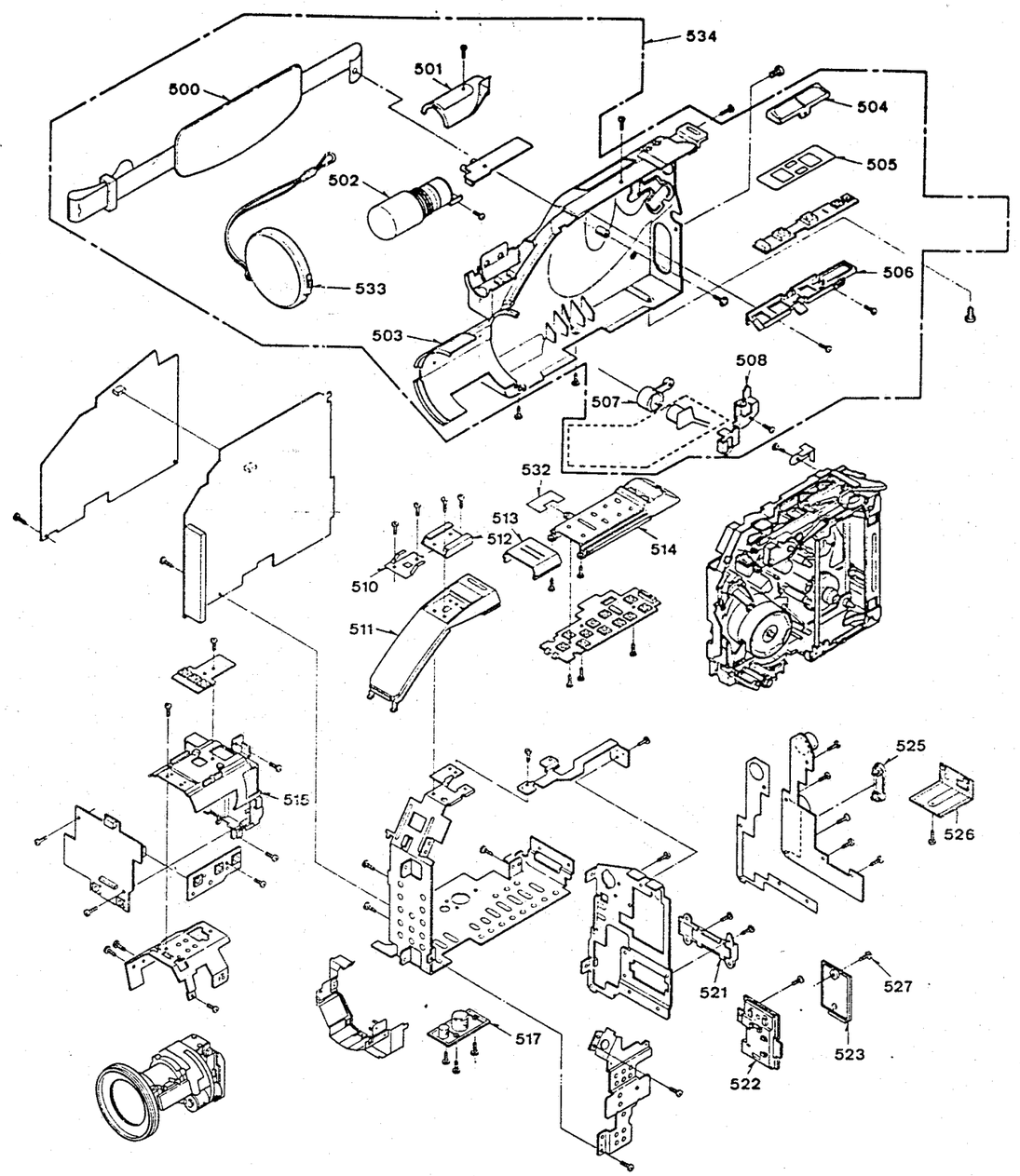
Explosionszeichnung (4) Objektivteile
Exploded View (4) Camera Lens Parts





Lfd. Nr. Item no.	Bestell-Nr. Part no.
401	8 619 510 722
404	8 619 510 558
406	8 619 510 723
409	8 619 520 271
410	8 619 520 416
411	8 619 520 415
412	8 619 510 922
414	8 619 510 923
415	8 619 510 720
416	8 619 510 531
418	8 619 590 221
419	8 619 510 957
420	8 945 903 173
421	8 619 510 559
422	8 619 510 560

Explosionszeichnung (5) Gehäuseteile
Exploded View (5) Frame and Casing Parts



Lfd. Nr. Item no.	Bestell-Nr. Part no.
500	8 619 510 914
501	8 619 590 282
501 (CR 4400)	8 619 580 525
502	8 619 590 512
503	8 619 590 283
503 (CR 4400)	8 619 580 526
504	8 619 590 285
505	8 619 590 288
506	8 619 590 289
507	8 619 590 290
508	8 619 590 291
510	8 619 510 669
511	8 619 590 286
511 (CR 4400)	8 619 580 527
512	8 619 510 383
513	8 619 590 284
513 (CR 4400)	8 619 580 528
514	8 619 590 287
514 (CR 4400)	8 619 580 529
515	8 619 590 296
517	8 619 590 228
521	8 619 590 292
522	8 619 590 293
523	8 619 580 155
525	8 619 590 229
526	8 619 590 294
526 (CR 4400)	8 619 580 530
527	8 619 510 521
533	8 619 590 295
534	8 619 590 261
534 (CR 4400)	8 619 580 531

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
	Wichtige mechanische Bauteile **Important mechanical parts**		
1	Kopftrommel DD cylinder unit	(CR 4400) (CR 4400)	8 619 530 621
1	Kopftrommel DD cylinder unit	(CR 4700) (CR 4700)	8 619 530 617
2	Kopfscheibe Upper cylinder unit	(CR 4400) (CR 4400)	8 619 530 622
2	Kopfscheibe Upper cylinder unit	(CR 4700) (CR 4700)	8 619 530 616
3	Capstanmotor kompl. Capstan motor compl.		8 619 520 411
4	Einfädelmotor Loading motor		8 619 520 409
5	Zoommotor Zoom motor		8 619 520 416
6	Fokusmotor Focus motor		8 619 520 415
7	Funktions-Wahlschalter Mode select switch		8 619 510 583
8	Mikrofon kompl. Microphone unit compl.		8 619 590 512
10	Trageriemen Shoulder belt		8 619 590 832
11	AV-Ausgangskabel AV output cable		8 619 590 734
12	Stromversorgungskabel Power supply cable		8 619 580 552
13	Video-Lampe (CR 4700) DC Video Light (CR 4700)		8 619 590 833

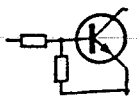
Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
	Sensorplatine **Sensor C.B.A.**		**8 619 590 038**
C 261	20 pF		8 923 910 533
D 201	MA 110		8 945 405 811
D 202	MA 728		8 945 405 816
D 203	MA 110		8 945 405 811
D 204	MA 133		8 925 405 514
D 206	MA 110		8 945 405 811
D 207	MA 110		8 945 405 811
D 208	MA 110		8 945 405 811
D 209	MA 110		8 945 405 811
D 210	MA 110		8 945 405 811
D 211	MA 132 WK		8 925 405 516
D 212	MA 728		8 945 405 816
D 213	MA 132 WA		8 925 405 515
IC 201	MN 5145 FHP		8 925 900 736
IC 201	MN 5145-2	(CR 4400)	8 925 900 791
IC 202	MN 3110 SA		8 925 900 749
IC 203	AN 2012 SB		8 925 900 737
IC 204	TC 7S04 F		8 925 900 672
Q 204	2 SD 2216		8 925 705 357
Q 205	2 SA 1610		8 945 705 644
Q 206	2 SC 4176		8 945 705 645
Q 207	2 SA 1610		8 945 705 644
Q 208	2 SC 4176		8 945 705 645
Q 209	2 SC 4626		8 925 705 358
Q 212	2 SD 2216		8 925 705 357
Q 213	2 SC 4627		8 925 705 359
SW 201			8 619 520 267
SW 202			8 619 520 267
X 201			8 946 193 386
X 201		(CR 4400)	8 946 193 386
	Hauptplatte **Main C.B.A.**		**8 619 590 034**
C 6007	30 pF	(CR 4400)	8 923 910 535
C 8001	20 pF	(CR 4400)	8 923 910 533
D 1	MA 110		8 945 405 811
D 1001	MA 132 K		8 925 405 554

Ersatzteilliste

Spare Parts List

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
D 1003	MA 728		8 945 405 816
D 1005	MA 728		8 945 405 816
D 1006	EC 10 QS 04-TEL		8 925 405 558
D 1007	SB 05-05 CP-TB		8 925 405 559
D 1008	MA 132 K		8 925 405 554
D 1009	SB 05-05 CP-TB		8 925 405 559
D 1010	MA 132 K		8 925 405 554
D 1012	MA 132 K		8 925 405 554
D 1013	MA 3100 L		8 945 405 724
D 1014	MA 3130		8 925 405 560
D 1015	MA 3130		8 925 405 560
D 3001	MA 132 K		8 925 405 554
D 3002	MA 133		8 925 405 514
D 5002	MA 132 WK		8 925 405 516
D 5003	MA 132 WA		8 925 405 515
D 5004	MA 132 K		8 925 405 554
D 5005	MA 132 WA		8 925 405 515
D 5007	MA 132 WK		8 925 405 516
D 6002	MA 3120		8 925 405 561
D 6003	MA 132 K		8 925 405 554
D 6004	MA 132 K		8 925 405 554
D 6005	MA 132 K		8 925 405 554
D 6006	MA 132 WK		8 925 405 516
D 6007	MA 132 WA		8 925 405 515
D 6008	MA 132 WK		8 925 405 516
D 6009	MA 132 WA		8 925 405 515
D 6010	MA 132 WA		8 925 405 515
D 6011	MA 132 K		8 925 405 554
D 6012	MA 143		8 945 405 822
D 6013	MA 121		8 945 405 843
D 6015	MA 133		8 925 405 514
D 6016	MA 132 K		8 925 405 554
D 6017	MA 132 K		8 925 405 554
D 6018	MA 132 WA		8 925 405 515
D 6019	MA 132 K		8 925 405 554
D 6020	MA 132 K		8 925 405 554
D 6021	MA 132 K		8 925 405 554
D 6022	MA 132 K		8 925 405 554
D 6023	MA 132 K		8 925 405 554
D 6024	MA 3130		8 925 405 560
D 6025	MA 165 VT	(CR 4400)	8 925 405 560
D 6026	MA 165 VT	(CR 4400)	8 925 405 560
D 6201	MA 133		8 925 405 514
D 6202	MA 133		8 925 405 514
D 8001	MA 132 K		8 925 405 554
D 8101	MA 132 K		8 925 405 554
D 8102	MA 132 K		8 925 405 554
DL 8001			8 619 580 313
FL 3001			8 619 530 258
FL 8001			8 619 530 278
IC 1	AN 2265 FAP-A		8 925 900 750
IC 1001	MB 3778 PF		8 925 900 751
IC 3001	VEFH 15 B M-ET		8 925 900 687
IC 3002	TL 8809 FEL		8 925 900 752
IC 4001	BA 7757 BK		8 925 900 679
IC 5001	AN 3345 FAS		8 925 900 728
IC 6001	S 8420 BF		8 925 900 753

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
IC 6004	UPD 74 HC 32 GT 1		8 925 900 754
IC 6005	UPD 4094 BG		8 945 902 105
IC 6006	UPD 6145 G 623		8 925 900 755
IC 6007	MN 675201 VRDZ		8 925 900 756
IC 6007	MN 675201 VRDX	(CR 4400)	8 925 900 792
IC 6008	S 3500 A 3		8 925 900 503
IC 6009	M 54543 AFP		8 925 900 677
IC 6010	LM 393 DB		8 925 900 652
IC 6012	UPD 4071 BG-T 1		8 925 900 757
IC 6013	PST 572 CMT		8 925 900 758
IC 6014	UPD 4071 BG-T 1		8 925 900 757
IC 6015	UPD 4071 BG-T 1		8 925 900 757
IC 6016	TC 4S66 F -TE 85 L		8 925 900 238
IC 6201	LM 2902 V-TE 1		8 925 900 759
IC 8001	AN 2465 NFAP		8 925 900 689
Q 1002	2 SD 1823		8 945 705 714
Q 1003	2 SB 1219		8 945 705 647
Q 1004	2 SB 1073		8 945 706 117
Q 1005	2 SB 1073		8 945 706 117
Q 1008	2 SD 2210		8 925 705 403
Q 1009	2 SD 2216		8 925 705 357
Q 1010	2 SB 956 X		8 945 706 033
Q 1012	2 SD 1119		8 945 705 437
Q 1015	2 SB 1462		8 925 705 360
Q 1101	2 SB 1073		8 945 706 117
Q 1102	2 SD 2216-R		8 925 705 394
Q 3001	2 SB 970 X		8 945 705 911
Q 3006	2 SD 2216		8 925 705 357
Q 3007	XN 4501		8 945 705 894
Q 3008	XN 4401		8 945 705 893
Q 3009	2 SD 2216		8 925 705 357
Q 3010	2 SB 1462		8 925 705 360
Q 4001	2 SB 1220		8 945 705 654
Q 4002	2 SD 2216-R		8 925 705 394
Q 4003	2 SD 2216-R		8 925 705 394
Q 4004	2 SD 2216		8 925 705 357
Q 4005	2 SD 2210		8 925 705 403
Q 4006	2 SB 1218 A		8 945 705 646
Q 4007	2 SD 2216		8 925 705 357
Q 4008	2 SB 1219		8 945 705 647
Q 5001	2 SC 4627		8 925 705 359
Q 5002	2 SD 2216		8 925 705 357
Q 5003	XN 4504		8 945 706 036
Q 5004	2 SB 970 X		8 945 705 911
Q 5005	2 SB 970 X		8 945 705 911
Q 5006	XN 4504		8 945 706 036
Q 5007	2 SA 812		8 945 705 433
Q 5008	2 SA 812		8 945 705 433
Q 5010	2 SC 2404		8 925 705 095
Q 5011	2 SB 970 X		8 945 705 911
Q 6001	2 SD 2216		8 925 705 357
Q 6003	2 SD 2216		8 925 705 357
Q 6005	2 SB 970 X		8 945 705 911
Q 6006	2 SD 2216		8 925 705 357
Q 6010	2 SD 2216	(CR 4400)	8 925 705 357
Q 8001	XN 4601		8 945 705 713
Q 8002	XN 4601		8 945 705 713
Q 8003	2 SC 4627		8 925 705 359
Q 8004	2 SK 711 TE 85 R		8 925 705 441
Q 8005	2 SK 711 TE 85 R		8 925 705 441
Q 8007	2 SD 2216		8 925 705 357
Q 8008	2 SB 1218 A		8 945 705 646
Q 8009	2 SD 2216		8 925 705 357
Q 8010	2 SD 2216		8 925 705 357
Q 8101	2 SB 1462		8 925 705 360

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
			
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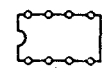
QR 1001	UN 9213		8 925 705 371
QR 1002	UN 9213		8 925 705 371
QR 1003	UN 9111		8 925 705 440
QR 1004	UN 9211		8 925 705 370
QR 1005	UN 9115		8 925 705 427
QR 1006	UN 9213		8 925 705 371
QR 1007	UN 9212		8 925 705 397
QR 3003	UN 9212		8 925 705 397
QR 3006	UN 9212		8 925 705 397
QR 3007	UN 9212		8 925 705 397
QR 3010	XN 1212		8 945 705 722
QR 3101	UN 9212		8 925 705 397
QR 3102	UN 9212		8 925 705 397
QR 4001	UN 9213		8 925 705 371
QR 5001	XN 1213		8 945 705 669
QR 5002	XN 1212		8 945 705 722
QR 5003	XN 1212		8 945 705 722
QR 5004	UN 9212		8 925 705 397
QR 5008	UN 9212		8 925 705 397
QR 5009	UN 9212		8 925 705 397
QR 6001	XN 1501		8 945 705 665
QR 6002	UN 9217		8 925 705 402
QR 6003	UN 9112		8 925 705 400
QR 6004	UN 9213		8 925 705 371
QR 6005	UN 9213		8 925 705 371
QR 6006	XN 1213		8 945 705 669
QR 6008	UN 9213		8 925 705 371
QR 6009	UN 9113		8 925 705 401
QR 6010	UN 9115		8 925 705 427
QR 6011	XN 1501		8 945 705 665
QR 6012	UN 9210		8 925 705 373
QR 6013	UN 9110		8 925 705 372
QR 6014	UN 9115		8 925 705 427
QR 8001	UN 9212		8 925 705 397
QR 8002	UN 9111		8 925 705 440
QR 8010	XN 1212		8 945 705 722
QR 8101	XN 1212		8 945 705 722
QR 8102	UN 9212	(CR 4400)	8 925 705 397
T 1001			8 619 530 226
T 4001			8 619 530 227
VR 3001	1 kΩ		8 941 599 644
VR 3002	2 kΩ		8 941 599 703
VR 3003	500 Ω		8 941 599 705
VR 4001	10 kΩ		8 941 599 641
VR 4002	50 kΩ		8 941 599 643
VR 5101	500 Ω		8 941 599 705
VR 6201	100 kΩ		8 941 599 704
VR 8008	10 kΩ		8 941 599 641
VR 8009	100 kΩ		8 941 599 704
VR 8010	5 kΩ		8 941 599 645
X 6001			8 946 193 361
X 6002			8 946 193 360
X 8001			8 946 193 359

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
	Kamera-Hauptplatine Camera Main C.B.A.		**8 619 590 039**
C 726	20 pF	(CR 4400)	8 923 910 533
D 101	MA 110		8 945 405 811
D 105	MA 132 WK		8 925 405 516
D 301	MA 110		8 945 405 811
D 302	MA 728		8 945 405 816
D 303	MA 8047 M		8 925 405 517
D 701	MA 110		8 945 405 811
D 702	MA 133		8 925 405 514
D 703	MA 110		8 945 405 811
D 704	MA 132 WA		8 925 405 515
D 705	MA 132 WA		8 925 405 515
D 706	MA 132 WA		8 925 405 515
FL 301			8 619 530 075
FL 302			8 619 530 261
FL 304			8 619 530 279
FL 305			8 619 530 077
FL 306			8 619 530 280
			
IC 1	MN 3819 S	(CR 4400)	8 945 903 048
IC 2	MN 3820 S	(CR 4400)	8 945 903 049
IC 101	MN 73039 VSMS		8 925 900 734
IC 102	LC 3664 NML		8 925 900 760
IC 103	MN 1551 VSTU		8 925 900 761
IC 104	AN 2355 S		8 925 900 658
IC 105	LM 311 DB		8 925 900 654
IC 303	MC 68 HC 05 N 481		8 925 900 762
IC 304	MB 88346 APFV		8 925 900 763
IC 305	MB 88346 APFV		8 925 900 763
IC 305	M 62352 GP	(CR 4400)	8 925 900 793
IC 307	MC 14066 BFR		8 925 900 648
IC 308	LM 324 DB		8 925 900 651
IC 310	LM 393 DB		8 925 900 652
IC 311	LM 339 DB		8 925 900 653
IC 314	AN 2165 FHP		8 925 900 764
IC 315	MN 73512 XWAS		8 925 900 657
IC 318	VEFH 09 E		8 925 900 748
IC 326	TC 4S66 F -TE 85 L		8 925 900 238
IC 701	LM 358 DB		8 925 900 655
IC 702	AN 2585 FAP		8 925 900 659
IC 703	MN 67803 VSTH		8 925 900 765
IC 703	MN 67803 VSTH 2	(CR 4400)	8 925 900 794
IC 704	AN 6664 S		8 925 900 507
IC 706	AN 6545 SP		8 925 900 506
IC 707	AN 6663 SP		8 945 902 482
IC 709	LM 324 DB		8 925 900 651
IC 710	UPD 7554 AG 515		8 925 900 766
IC 711	MB 88346 APFV		8 925 900 763
IC 711	M 62352 GP	(CR 4400)	8 925 900 793
IC 713	MN 12321 R		8 945 902 138
IC 714	AN 6545 SP		8 925 900 506

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
Q 1	2 SB 1218 A	(CR 4400)	8 945 705 646
Q 2	XN 4401	(CR 4400)	8 945 705 893
Q 3	2 SB 1218 A	(CR 4400)	8 945 705 646
Q 4	2 SD 1819	(CR 4400)	8 945 705 642
Q 110	2 SD 2216		8 925 705 357
Q 111	XP 4601		8 925 705 366
Q 301	2 SC 4627		8 925 705 359
Q 302	XP 1216		8 925 705 363
Q 303	XP 1216		8 925 705 363
Q 304	2 SC 4627		8 925 705 359
Q 305	XP 1401		8 925 705 364
Q 306	2 SD 2216		8 925 705 357
Q 307	XP 1401		8 925 705 364
Q 308	XP 4501		8 925 705 365
Q 309	2 SD 2216		8 925 705 357
Q 310	XP 4501		8 925 705 365
Q 311	2 SB 1462		8 925 705 360
Q 312	XN 4608		8 945 705 909
Q 313	2 SC 4627		8 925 705 359
Q 324	XP 1212		8 925 705 367
Q 325	XP 1215		8 925 705 368
Q 326	2 SB 1462		8 925 705 360
Q 327	2 SB 1462		8 925 705 360
Q 329	2 SD 2216		8 925 705 357
Q 331	XP 4401		8 925 705 369
Q 337	2 SC 4627		8 925 705 359
Q 338	2 SC 4627		8 925 705 359
Q 339	2 SC 4627		8 925 705 359
Q 340	2 SD 2216		8 925 705 357
Q 341	2 SC 3938		8 945 705 655
Q 342	2 SD 2216		8 925 705 357
Q 701	2 SD 2216		8 925 705 357
Q 709	2 SD 2216		8 925 705 357
QR 101	UN 9214		8 925 705 361
QR 102	UN 9213		8 925 705 371
QR 103	UN 9214		8 925 705 361
QR 104	UN 9210		8 925 705 373
QR 304	UN 9214		8 925 705 361
QR 305	UN 9213		8 925 705 371
QR 701	UN 9211		8 925 705 370
QR 703	UN 9211		8 925 705 370
QR 705	UN 9110		8 925 705 372
QR 706	UN 9110		8 925 705 372
QR 708	UN 9110		8 925 705 372
QR 711	UN 9210		8 925 705 373
VR 301	100 kΩ		8 941 599 704
VR 302	5 kΩ		8 941 599 645
VR 303	200 kΩ		8 941 599 646
X 101			8 946 193 377
X 301			8 946 193 387
X 301		(CR 4400)	8 946 193 390
X 701			8 946 193 376
X 701		(CR 4400)	8 946 193 376

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
Sucherplatine E.V.F.-C.B.A.		**8 619 510 951**
D 801	MA 141 K	8 945 405 813
D 802	SFPL-52	8 925 405 518
IC 801	AN 2514 S	8 945 903 053
Q 801	2 SB 1218 A	8 945 705 646
Q 802	2 SD 968 A-S	8 925 705 374
Q 803	2 SA 1532	8 945 705 650
R 825		8 619 580 002
SW 801		8 619 520 268
SW 802		8 619 427 215
T 801		8 619 530 277
VR 801		8 941 599 648
VR 802	50 kΩ	8 941 599 643
VR 803		8 941 599 721
Rekorder-Bedienteilplatine VTR Operation C.B.A.		**8 619 580 036**
D 1501	MA 151 WA	8 945 405 707
D 1502	MA 151 WA	8 945 405 707
D 1503	MA 151 WA	8 945 405 707
D 1504	MA 151 WA	8 945 405 707
D 1505	MA 151 WA	8 945 405 707
D 1506	MA 151 WK	8 945 405 317
D 1507	MA 151 WK	8 945 405 317
D 1508	BR 1102 W-TR	8 945 406 135
R 1501		8 619 580 005
SW 1501		8 619 520 245
SW 1502		8 619 520 245
SW 1503		8 619 520 245
SW 1504		8 619 520 245
SW 1505		8 619 520 245

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
SW 1506		8 619 520 245
SW 1507		8 619 520 245
SW 1508		8 619 520 245
SW 1509		8 619 520 267
SW 1510		8 619 520 245
SW 1511		8 619 520 245
SW 1512		8 619 520 269
SW 1513		8 619 520 247
SW 1514		8 619 520 246
	Kamera-Bedienteilplatine (1) **Camera Oper. (1) C.B.A.**	**8 619 590 898**
D 51	MA 151 WA	8 945 405 707
D 52	MA 151 A	8 945 405 225
SW 51		8 619 520 267
SW 52		8 619 520 267
SW 53		8 619 520 267
	Kamera-Bedienteilplatine (2) **Camera Oper. (2) C.B.A.**	**8 619 590 899**
SW 71		8 619 520 267
SW 72		8 619 520 267
SW 73		8 619 520 267
	Mikrofon-Anschlußplatine **MIC Interface C.B.A.**	**8 619 590 035**
J 4301		8 619 520 638
J 4302		8 619 520 638
Q 4301	2 SC 2405	8 925 705 088
Q 4302	2 SD 601-R	8 925 705 418
	Zoom-Schalterplatine **Zoom Sw C.B.A.**	**8 619 590 037**
SW 41		8 619 520 270
SW 42		8 619 520 270
SW 43		8 619 424 203
SW 44		8 619 424 203

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
	Buchsenplatine **Jack C.B.A.**	**8 619 590 033**
D 1801	31DQ 04	8 945 406 290
J 1701		8 619 520 639
J 1801		8 619 520 640
J 1802		8 619 428 608
J 1901		8 619 520 647
R 1801		8 619 487 002
SW 1901		8 619 520 270
	Titelgeneratorplatine **Charactergenerator C.B.A.**	**8 619 510 955**
	Treiberplatine **Drive C.B.A.**	**8 619 590 877**
D 6101	PLT-462	8 945 406 278
IC 2101	AN 3890 FBS	8 925 900 674
IC 2102	UN 218 CU	8 925 900 675
IC 2103	AN 3890 FBS	8 925 900 674
IC 2104	TDM 3702	8 925 900 712
Q 2111	2 SD 2216	8 925 705 357
QR 6103	PN 163	8 619 520 505
	Laufwerk-Verbindungsplatine **Mechan. flex. card C.B.A.**	**8 619 510 954**
1	Halter Holder (Take up reel)	8 619 580 186
2	Holder Holder (Supply reel)	8 619 580 187

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
D 1	ON 2170-LM	8 619 520 507
D 2	PN 163	8 619 520 505
	Objektivplatine Lens flexible card C.B.A.	**8 619 510 956**
1	Folienleiterbahn Flexible Cable	8 619 580 551
D1	ON 1004	8 619 520 508

Hinweis:
Handelsübliche Kondensatoren und Widerstände sind in der Ersatzteilliste nicht aufgeführt. Wir bitten Sie, diese Teile im Fachhandel zu beziehen.

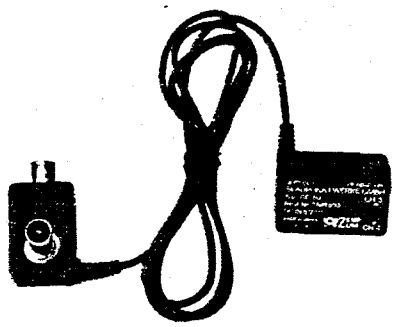
Note:
Capacitors and resistors usual in trade are not mentioned in the spare parts list. Kindly buy these parts from the specialized trade.

BLAUPUNKT
Bosch Telecom

Zubehör - Sonderzubehör
Accessories - Optional Accessories

Kundendienstschrift • Service Manual

HF-Adapter RF-80 / RF Adaptor RF-80 7 618 898 700

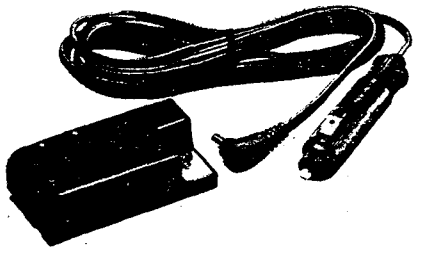


HF-Adapter RF-80 kompl. / RF adaptor RF-80 compl.
Bestell-Nr. / Part no.: 8 619 591 831

Der HF-Adapter RF-80 ermöglicht den Anschluß des Camerarecorders an ein Fernsehgerät ohne Video-/Audiobuchse.

By using the RF-80 adaptor it is possible to connect the camcorder to the TV set without Video/Audio input sockets.

Autobatterieadapter DCA-77 / Car Battery Cord DCA-77 7 618 797 700



Beipack:
1 Stück Autobatteriekabel 3m (DCC-16B)
1 Stück Bedienungsanleitung für DCA-77

Accessories supplied:
1 piece car battery cord 3m (DCC-16B)
1 piece operating instruction for DCA-77

(Keine Ersatzteile lieferbar)
(No spare parts available)

Mit dem Autobatterieadapter DCA-77 kann der Camerarecorder an eine 12 V (24 V) Zigarettenanzünder-Buchse angeschlossen werden.

By means of the car battery cord DCA-77 the camcorder may be connected to a 12 V (24 V) cigar lighter socket.

Akku / Battery Pack

Technische Daten / Specifications:

AX-77 = 6V / 1,0 Ah
AX-80 = 6V / 1,4 Ah
AX-85 = 6V / 1,8 Ah (1,6 Ah)
AX-88 = 6V / 2 Ah
AX-90 = 6V / 2,4 Ah

Diese Akkus dienen als Stromversorgung für die CR-8110. Die Aufladung erfolgt mit den Netzadaptern PC-80 (PC-80 A) bzw. PC-77.

Hinweise zur Behandlung und Lagerung von Ni-Cd-Akkumulatoren

1. Vor der ersten Inbetriebnahme muß der Akku geladen werden.
2. Den Akku immer so lange verwenden, bis er ganz entladen ist. (Es leuchtet dann die Warnanzeige ⌧, und der Camerarecorder schaltet ab.) Wenn ein nur teilweise entladener Akku wiederholt geladen wird, kann es dazu kommen, daß die Betriebszeit des Akkus immer kürzer wird.
3. Die in der Anleitung und in Katalogen angegebene Akku-Betriebszeit gilt nur für den Fall, daß durchgehend bei normaler Zimmertemperatur aufgenommen wird. Da dies nicht immer den tatsächlichen Bedingungen entspricht, sollte mit einer kürzeren Betriebszeit gerechnet werden.
4. Eine besondere Wartung der Akkus ist nicht erforderlich, sie sind wartungsfrei. Allerdings sollten die Akkus vor Feuchtigkeit, Verunreinigung und vor zu hohen Temperaturen, z.B. direkte Sonneneinstrahlung, geschützt werden.
5. Die Lagerung von Ni-Cd-Akkus kann in jedem Ladezustand, also auch entladen, erfolgen. Der beste Lagertemperaturbereich ist 0° bis 25°C bei einer normalen Luftfeuchtigkeit von ca. 50%.
6. Die Selbstentladung von Ni-Cd-Akkus wird sehr stark von der Temperatur beeinflußt; sie ist bei Temperaturen unter 0°C am geringsten. Bei hohen Temperaturen und hoher Luftfeuchtigkeit, wie auch bei längerer Lagerung der Akkus, ist mit Selbstentladung zu rechnen.
7. Die folgenden Punkte beachten, um Gefahren bzw. Beschädigungen zu vermeiden.
   - Den Akku nicht ins Feuer werfen.
   - Die Anschlußkontakte nicht kurzschließen.
   - Den Akku nicht auseinandernehmen oder Änderungen daran vornehmen.
   - Nur den mitgelieferten Netzadapter zum Aufladen der Akkus verwenden.
   - Den Akku keinen starken Stößen aussetzen und nicht fallen lassen.
8. Der Akku kann beim Betrieb oder Aufladen warm werden, dies ist völlig problemlos.

Schützen Sie die Umwelt !
Verbrauchte Batterien und Akkus gehören nicht in den Hausmüll !

Bitte bei Ihrem Fachhändler oder einer Sammelstelle für Sonderstoffe abliefern.

This battery packs serves for current supply of the CR-8110. It is charged via the power adaptors PC-80 (PC-80 A) or PC-77.

Indications for treatment and storage of Ni-Cd accumulators

1. The battery pack must be charged before using it for the first time.
2. Always use the battery pack until it is discharged completely (until the warning indication ⌧ lights up and the camcorder switches off). Frequent charging of only partially discharged battery packs, may reduce the operating time of the battery.
3. "Battery life" as indicated in the instruction manual or catalogue of the camcorder is measured by the continuous recording time of the camcorder, placed at a room temperature using a full-charged battery.
4. The battery packs do not require spezial maintenance, they are maintenance-free. However, the battery packs should be protected from humidity, dirt and from high temperature, e. g. direct sunlight.
5. The Ni-Cd battery packs can be stored in any charging condition, including discharged condition. The optimum temperature range for storing is 0° to 25°C and a normal relative humidity of 50%.
6. The self-discharge of battery packs depends largely on the temperature; at temperatures below 0°C it is greatly minimized. At high temperatures and high humidity as well when storing for long periods, self-discharging may occur.
7. Pay attention to the following points to avoid danger or damage.
   - Do not throw the battery pack into fire.
   - Do not short-circuit the poles of the connector.
   - Do not disassamble or reconstruct the battery pack.
   - Use only the supplied power adaptor to charge battery packs.
   - Never subject the battery packs to strong shocks or drop them.
8. During operation of the camcorder or during recharging, the battery pack may become warm. However, this does not pose any problem.

Protect the Environment !
Do not discard used batteries with your household rubbish !

Please return them to your dealer, or bring them to a collecting point for spezial substances.

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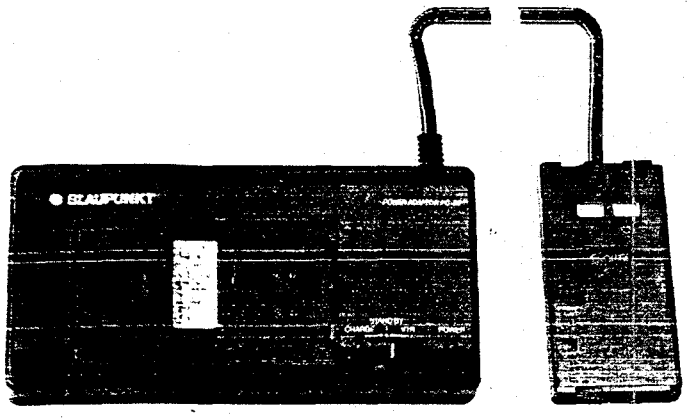
BLAUPUNKT
Bosch Telecom

Netzadapter / AC Power Adaptor
PC-80, PC-80 A 8 627 105 424

Kundendienstschrift • Service Manual



Technische Daten

Leistungsaufnahme:	20 W
Stromversorgung:	110-240 V Wechselspannung 50/60 Hz
Ausgangsspannung:	DC OUT-Buchse: 7,5 V, 1,6 A (bei Betrieb) Akku-Ladebuchse: 10 V, 1,3 A (beim Laden)
Betriebstemperatur:	0°C - 40°C
Lagertemperatur:	-20°C - +60°C
Abmessungen:	ca. 170 x 41,6 x 82 mm (B/H/T)
Gewicht:	ca. 520 g

Specifications

Power consumption:	20 W
Power requirements:	110-240 V AC, 50/60 Hz
Output voltage:	DC OUT: 7.5 V, 1.6 A in operating mode Battery charge terminal: 10 V, 1.3 A in charge mode
Operating temperature:	0°C to 40°C (32°F to 104°F)
Storage temperature:	-20°C to +60°C (-4°F to 140°F)
Dimensions:	Approx. 170 x 41.6 x 82 mm (w/h/d) ($6^{3}/_{4}$ x $1^{11}/_{16}$ x $3^{1}/_{4}$ inches)
Weight:	Approx. 520 g (18 oz)

Dieser Netzadapter PC-80 (PC-80 A) versorgt die CR-8110 und dient außerdem zum Laden der entsprechenden Akkus.

This AC power adaptor PC-80 (PC-80 A) supplies the CR-8110 and also serves for charging the corresponding battery pack.

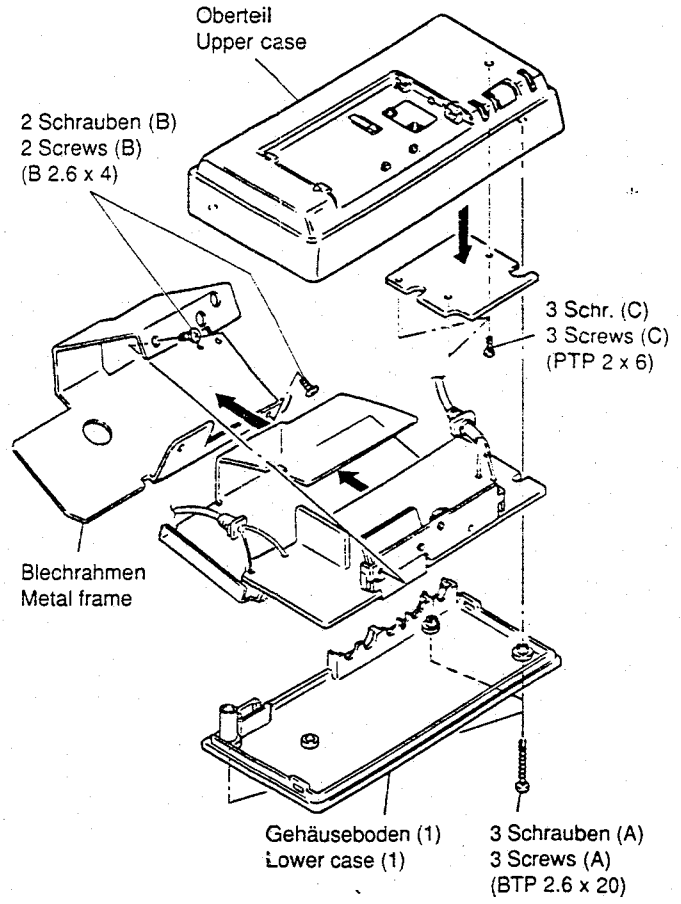
Zerlegungshinweise PC-80, PC-80 A

1. Die drei Schrauben (A) im Boden des Gehäuses herausdrehen und den Gehäuseboden abnehmen (1).
2. Die Netzteilplatte mit dem Blechrahmen etwas anheben und vorsichtig von der Ladekontrollplatte (kleine Leiterplatte an der Stirnseite) abziehen.
3. Die zwei Schrauben (B) am Blechrahmen herausdrehen. Den Rahmen und die Kunststoffabdeckung abnehmen.
4. Die drei (zwei) Schrauben (C) herausdrehen und die Ladekontrollplatte abnehmen. (Beim PC-80 A die drei Anschlußkontakte ablöten.)

Notes on Disassembly PC-80, PC-80 A

1. Unscrew the three screws (A) from the cabinet bottom. Remove the lower case (1).
2. Lift the power control board slightly and remove it cautiously from the charging control board (small PCB provided at the front).
3. Unscrew the two screws (B) from the metal frame. Remove the frame and the plastic cover.
4. Unscrew the three (two) screws (C) and remove the charging control board. (In case of PC-80 A unsolder the three contact pins.)

PC-80



PC-80 A

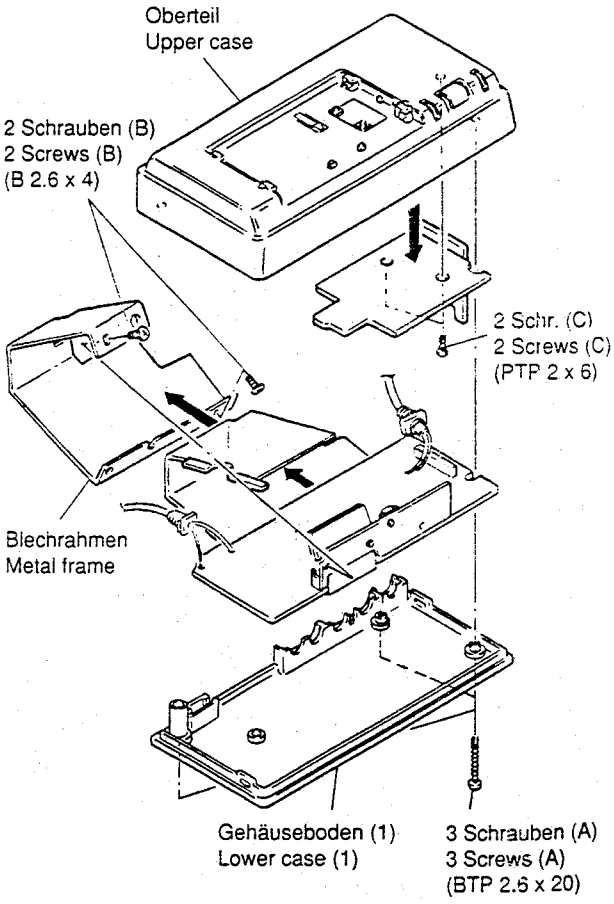


Fig. A

Transporthinweis:

Wird der Camerarecorder längere Zeit nicht benutzt (bzw. gelagert oder transportiert) ist der Akku abzunehmen, da auch im abgeschaltetem Zustand ein kleiner Strom fließt.

Mechanische Wartung

Nachstehende Teile benötigen eine regelmäßige Reinigung, da sich mit der Zeit Bandabrieb ansammelt.
Bei Verwendung von Marken-Videocassetten sind die Reinigungsarbeiten nach ca. 500 Betriebsstunden durchzuführen. Bei Verwendung anderer Videocassetten können die Reinigungsarbeiten schon nach kürzerer Betriebszeit notwendig werden.

Reinigung der Rotationsköpfe

- Demontage der Gehäuseteile siehe „Servicevorbereitungen" Seite 4.
- Ein weiches Ledertuch (Kopfreiniger 8 619 497 813) oder ein fusselfreies Tuch mit reinem Alkohol anfeuchten und mit sanftem Druck auf die Rotationsköpfe halten. Nun die Kopfscheibe mit der Hand hin- und herbewegen. Diesen Vorgang wiederholen, bis der Bandabrieb beseitigt ist.

Reinigung von Führungsrollen, Andruckrolle, Capstanwelle und Bandführungen.

- Diese Teile sind mit einem Wattestäbchen, das mit reinem Alkohol angefeuchtet ist, zu reinigen.
- Nach Beendigung der Reinigungsarbeiten die demontierten Teile wieder montieren.
- Bevor die Videocassette eingesetzt wird, müssen alle gereinigten Teile gut abgetrocknet sein, um Bandschäden zu vermeiden.
- Antriebsriemen und Lager benötigen unter normalen Betriebsbedingungen keine Wartung.

Hinweise zur Kundendienstschrift CR-8110:

Differenzen zur CR-8100:

1. Die RM-51P Platine zusätzlich.
2. Ein Zusatzstecker auf der RC-46P (RC-40P) Platine.
3. Der Mikroprozessor (IC 651) wurde auf der CK-52P (CK-43P) Platine geändert.

Die Bezeichnung und die Ersatzteilnummern der folgenden Platinen wurden trotz gleicher Bestückung bei der CR-8110 geändert. Schaltbild und Platinendarstellung können aus der CR-8100 entnommen werden.

Transport Advice

If the camcorder will not be used for some time (or stored or transported resp.) the battery pack must be taken off, as there is always a small current flowing.

Mechanical Servicing

The following parts require regular cleaning because of gradual tape abrasion.
If you use brand video cassettes, cleaning has to be performed approximately after 500 working hours. If you use other video cassettes, cleaning already becomes necessary after a shorter working time.

Cleaning of rotary heads

- Disassembly of the cabinet parts, see page 4 "Service Preparations".
- Moisten a soft leather cloth (head cleaner 8 619 497 813) or a lintfree cloth with pure alcohol and press it softly on the rotary heads. Move the upper cylinder by hand in either direction and repeat this procedure until the tape abrasion has been removed.

Cleaning of the guide rollers, pressure roller, capstan shaft and the tape sliders.

- These parts have to be cleaned with a cotton-wool bud moistened with pure alcohol.
- After finishing these cleaning works reassemble all disassembled parts.
- Before the video cassette can be inserted all cleaned parts have to be completely dry in order to avoid tape defects.
- Drive belts and bearing do not require servicing in normal working conditions.

Notes for Service Manual CR-8110:

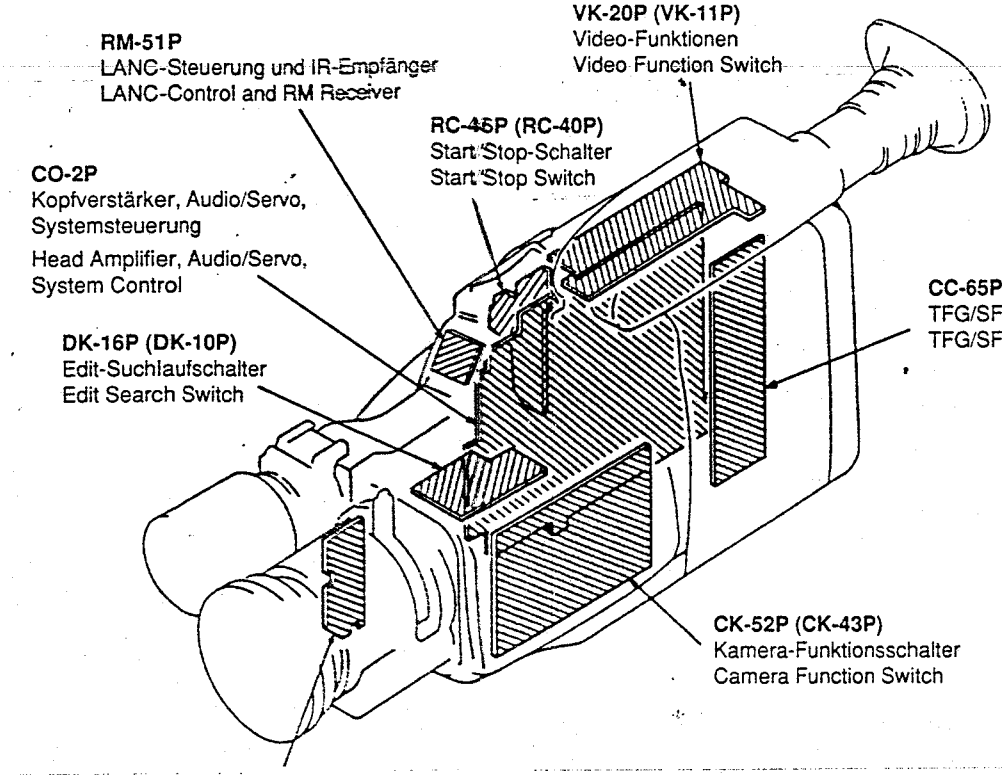
Mainly difference portion:

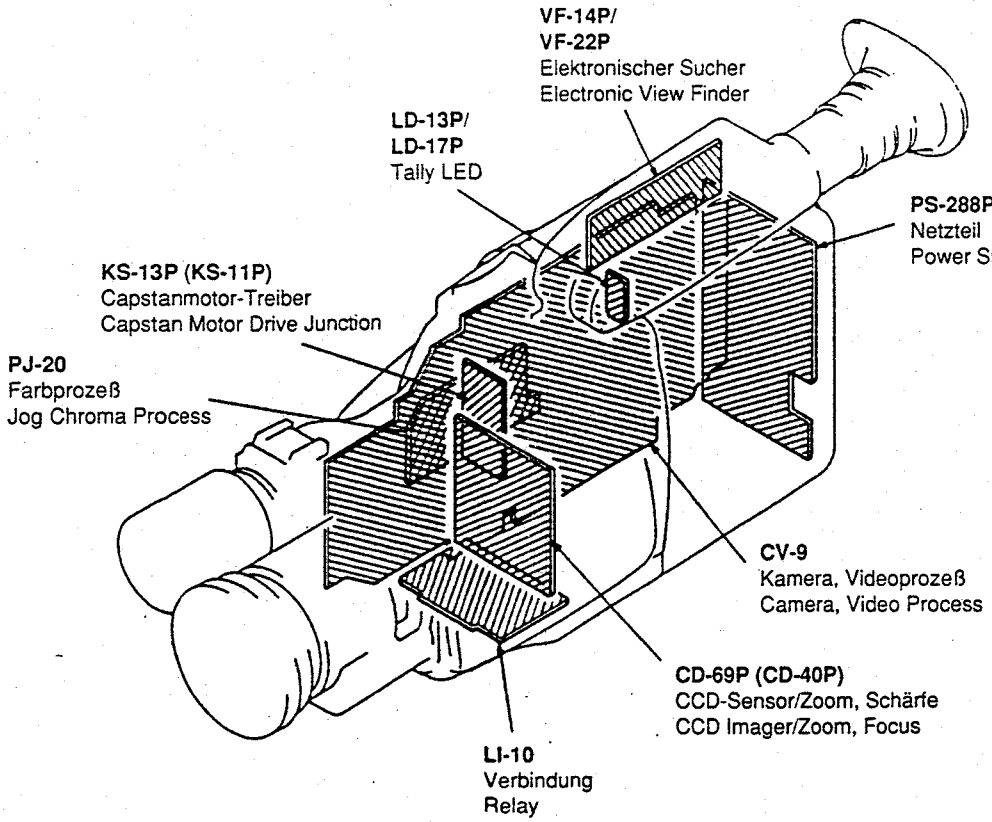
1. The RM-51P board addition.
2. Connector addition on RC-46P (RC-40P) board.
3. Microprocessor (IC 651) change on CK-52P (CK-43P) board.

The name and part number of the following pc boards differ from those of CR-8100, but schematic diagram and printed wiring boards of the pc boards are the same as those of CR-8100.

Platinen der CR-8110 **P.C. Boards of CR-8110**	**Platinen der CR-8100** **P.C. Boards of CR-8100**	
Bezeichnung Designation	Bezeichnung Designation	Hinweise Notes
CD-69P	CD-40P	gegenseitig Ersatz / interchangeable
DK-16P	DK-10P	gegenseitig Ersatz / interchangeable
KS-13P	KS-11P	gegenseitig Ersatz / interchangeable
CC-65P	CC-51P	gegenseitig Ersatz / interchangeable
VK-20P	VK-11P	gegenseitig Ersatz / interchangeable
MA-107P	MA-66P	gegenseitig Ersatz / interchangeable
PS-288P	PS-263P	gegenseitig Ersatz / interchangeable
RM-51P		neu / new
RC-46P	RC-40P	Zusatzstecker / Add. connector
CK-52P	CK-43P	IC 651 geändert / changed

Lage der Platinen im Gerät
Circuit Boards Location

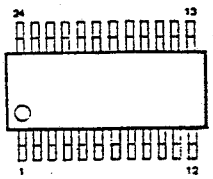




( ): Platinenbezeichnung der CR-8100
( ): Board designation of CR-8100

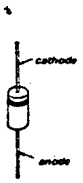
Halbleiter-Anschlußpunkte PC-80
Semi Conductor Connections PC-80

MB88211-141K



2SA1175

AU02A



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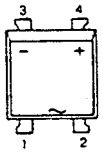

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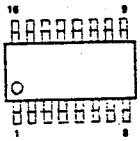

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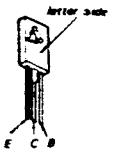


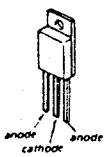
ERB81-004

GL3HY8
GL3PG8

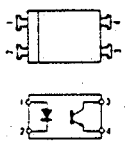
RC78L05A

2SC2001

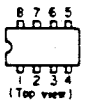
ESAC85-009



TLP621

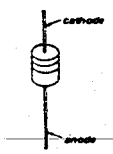


μPC358



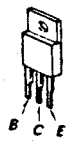
2SD773

RD10ES-B2
RD15ES-B2
RD20ES-B2
RD24ES-B3
RD5.1ES-B2
1SS119



DTC114ES

2SK786



Einstellhinweise PC-80, PC-80 A

Bei allen Einstell- und Reparaturarbeiten sind die VDE-Vorschriften zu beachten.
Zur Einstellung der Ausgangsspannung und des Ladestromes sind die Netzteilplatte und die Ladekontrollplatte wieder zu verbinden.

Achtung! Die Netzteilplatte führt 220 V Wechselspannung.

Einstellen der Ausgangsspannung

1. Den Schalter POWER auf VTR schalten (die Lampe POWER leuchtet).
2. Das Digitalvoltmeter D1 (wie in Fig. B gezeigt) anschließen und mit RV 202 eine Spannung von 7,7 V ± 0,1 V (Leerlauf) einstellen. Ist der Camerarecorder angeschlossen, eine Spannung von 7,6 V ± 0,1 V einstellen.

Einstellen des Ladestromes

1. Den Schalter POWER auf CHARGE schalten (die Lampe POWER leuchtet).
2. Beim PC-80 den Batteriefachschalter BATT betätigen, bzw. beim PC-80 A den ⊝ Kontakt herunterdrücken (die Lampe CHARGE leuchtet).
3. Einen entladenen Akku (wie in Fig. B gezeigt) anschließen und mit VR 201 einen Ladestrom von 1,3 A ± 0,1 A einstellen.

Notes on Alignment PC-80, PC-80 A

In case of any alignments or repairs, the VDE regulations must be observed.
To align the output voltage and the charging current re-connect the power control board and the charging control board.

Attention! The power control board carries 220 VAC.

Adjusting the output voltage

1. Turn the power switch POWER of the set to VTR (the POWER lamp lights).
2. Adjust RV 202 so that the reading of digital voltmeter D1 is in the limits of 7.7 V ± 0.1 V (without camcorder) Fig. B.
   Adjust by connected camcorder a voltage of 7.6 V ± 0.1 V.

Adjusting charging current

1. Turn the power switch POWER to CHARGE (the POWER lamp lights).
2. In case of PC-80 turn ON switch BATT (battery detector), in case of PC-80 A push the ⊝ contact down (the CHARGE lamp lights).
3. Insert a discharged battery in to the power adapter as shown in Fig. B and adjust RV 201 so that the reading of the ampere meter is in the limits of 1.3 A ± 0.1 A.

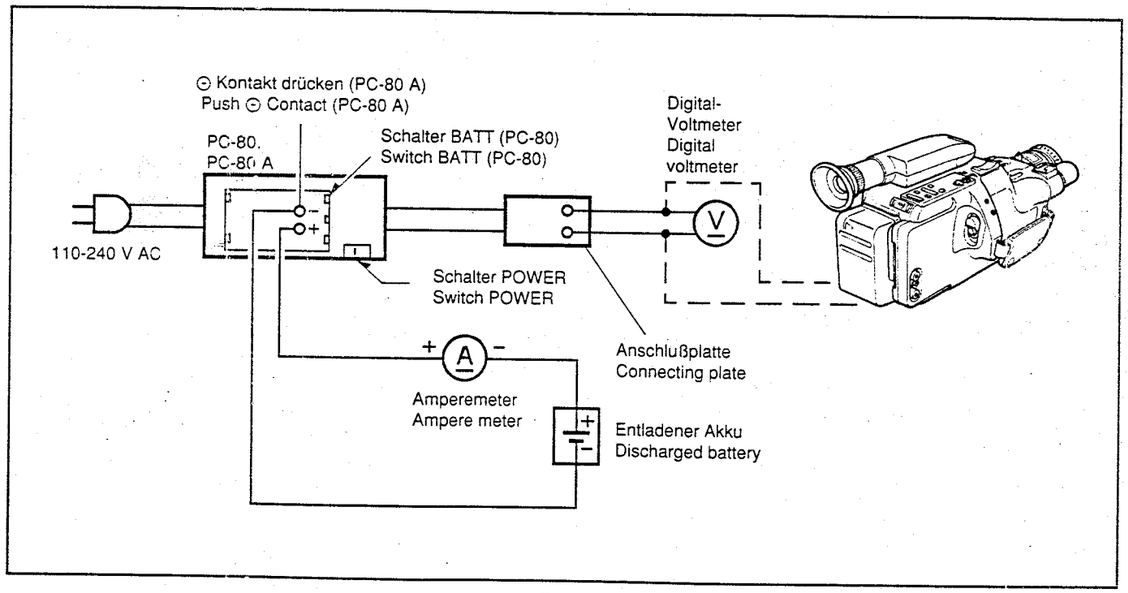


Fig. B

Lage der Einsteller | Location of controls

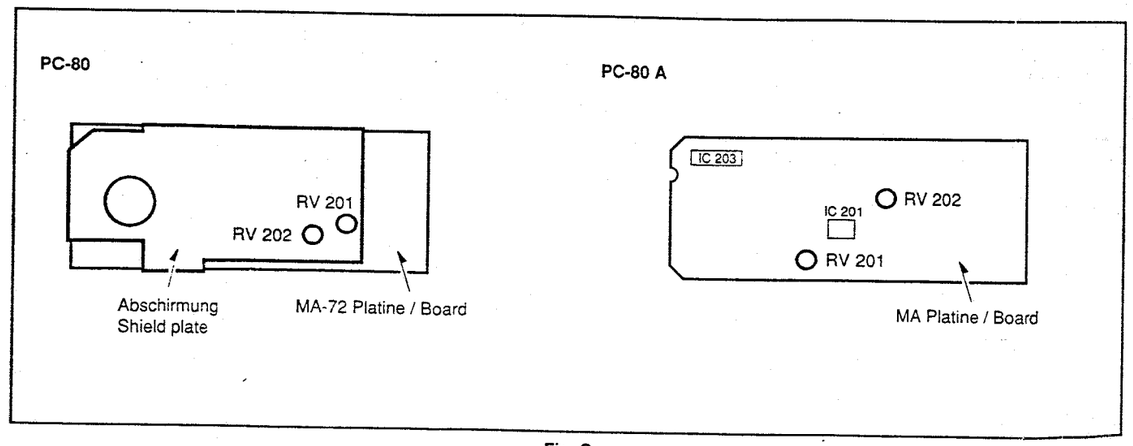
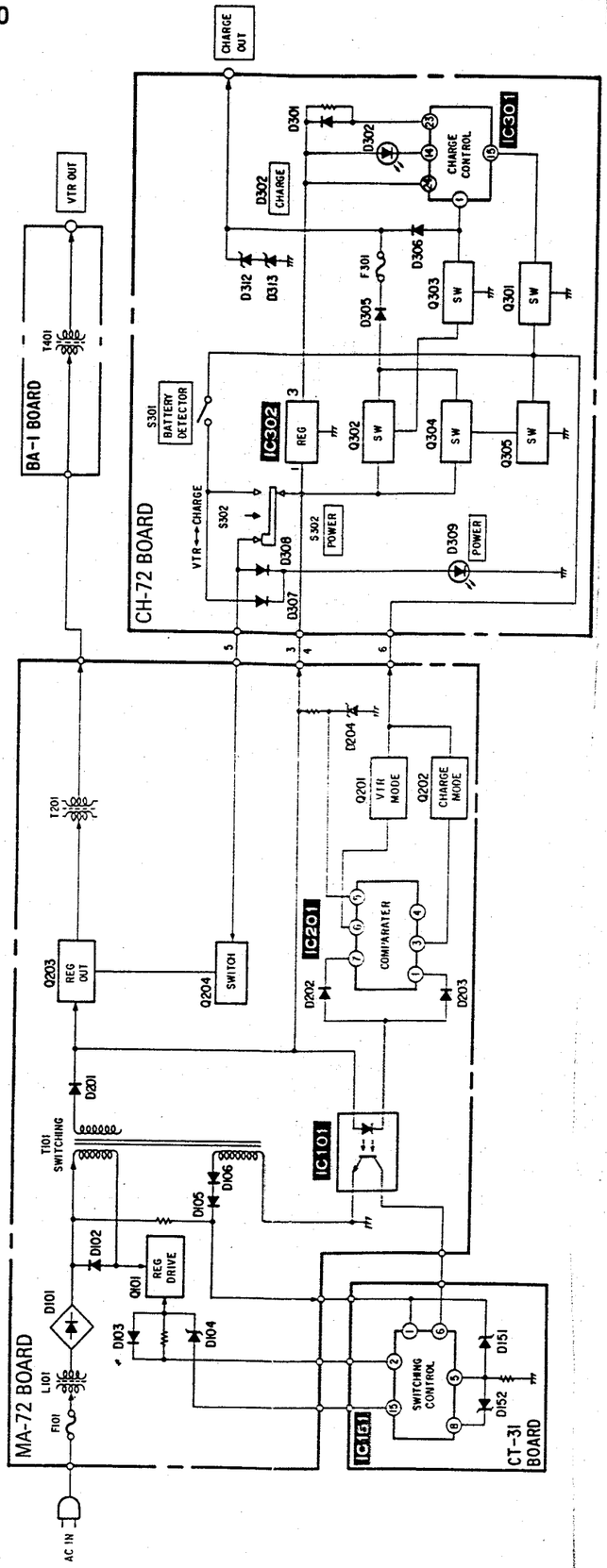
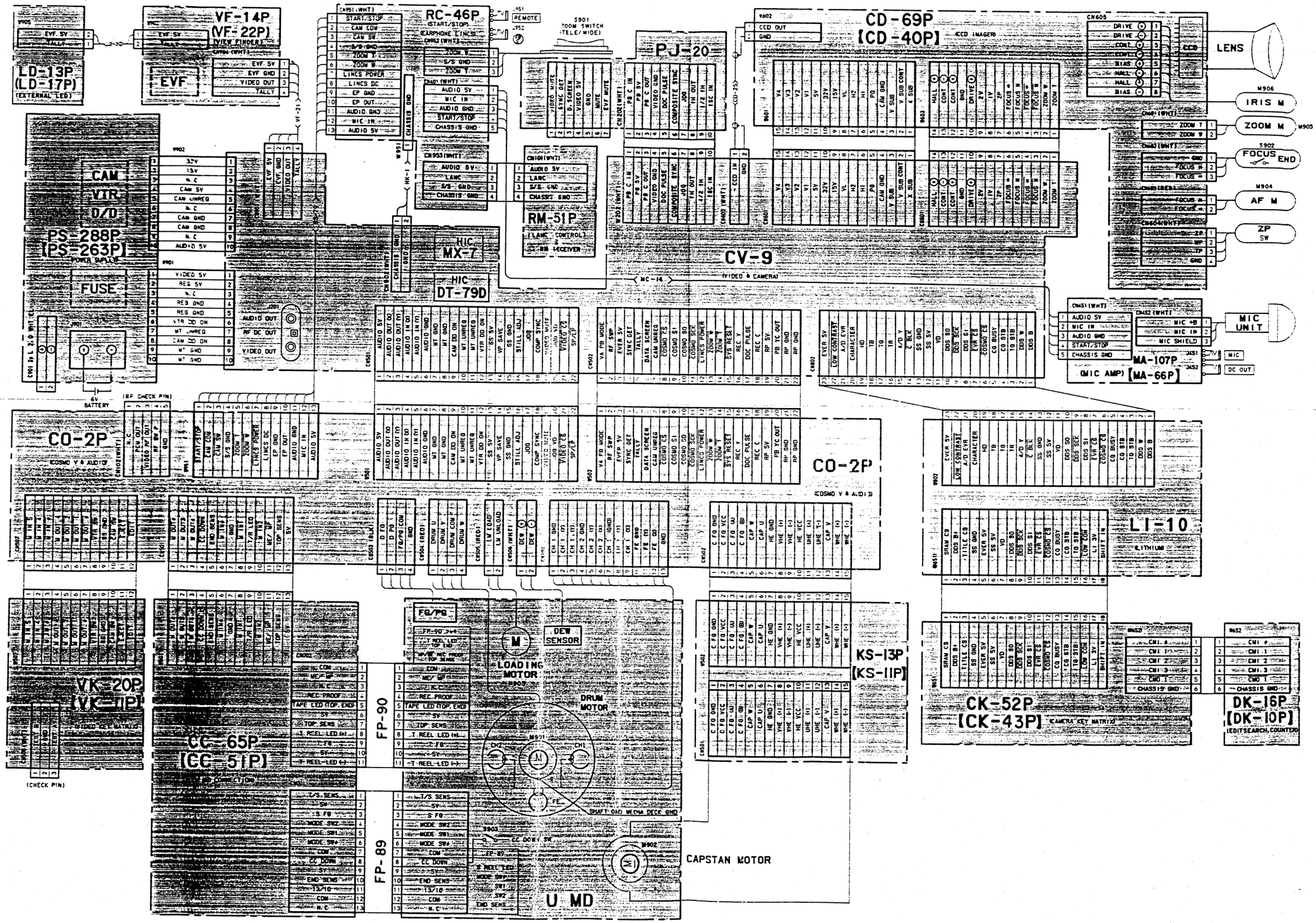


Fig. C

Blockschaltbild PC-80
Block Diagram PC-80



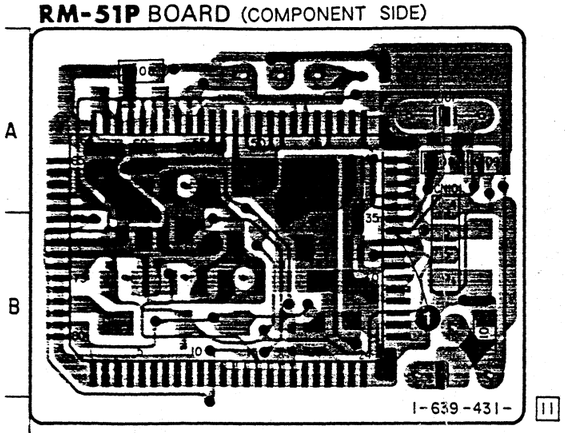
Verdrahtungsplan CR-8110
Interconnection Schematic Diagram CR-8110



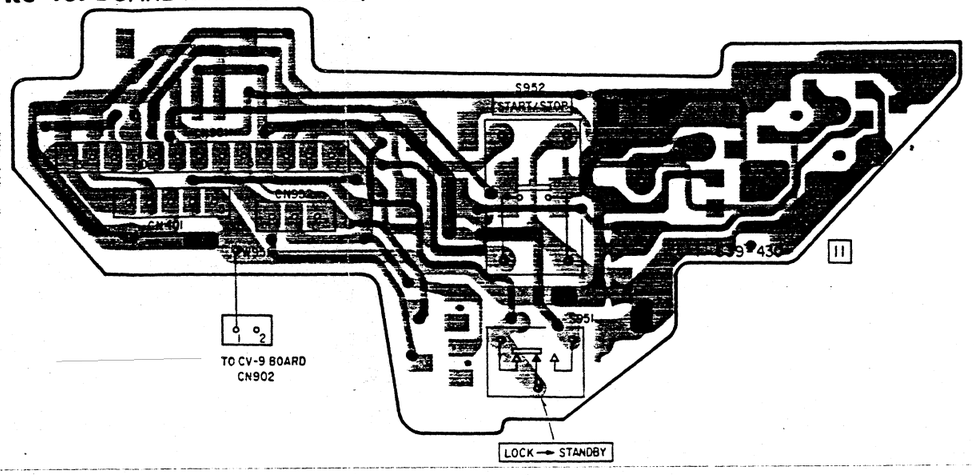
( ): Platinenbezeichnung der CR-8100
( ): Board designation of CR-8100

RM-51P (LANC-Steuerung und IR-Empfänger), **RC-46P** (Start/Stop Schalter) **Platinen**
RM-51P (LANC-Control and RM Receiver), **RC-46P** (Start/Stop Switch) **Printed Wiring Boards**

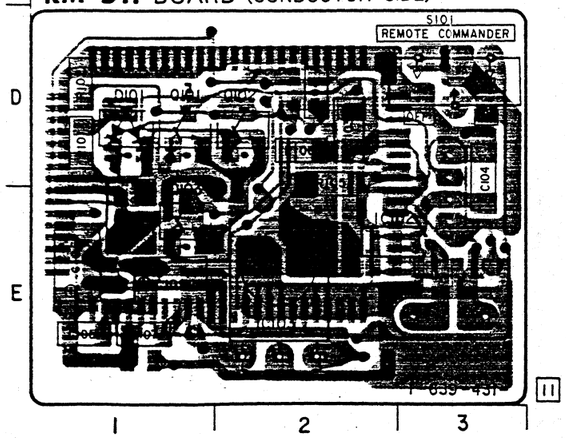
RM-51P BOARD (COMPONENT SIDE)



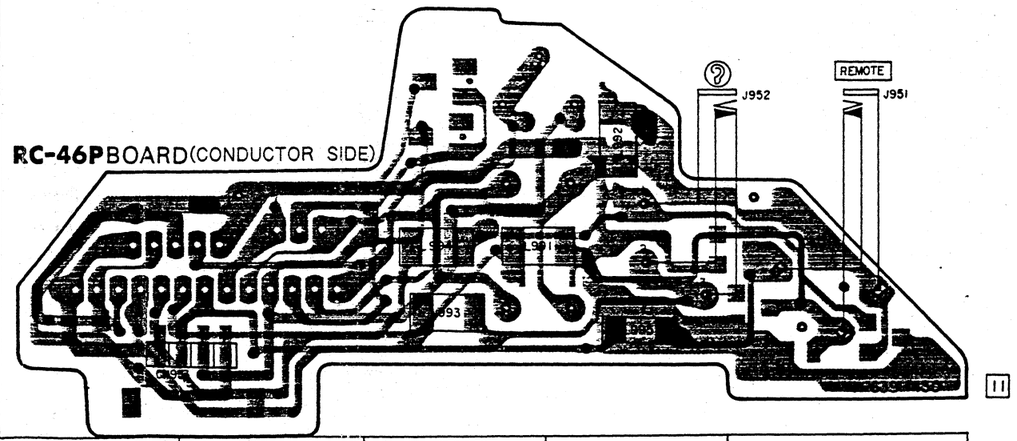
RC-46P BOARD (COMPONENT SIDE)



RM-51P BOARD (CONDUCTOR SIDE)



RC-46P BOARD (CONDUCTOR SIDE)



COMPONENT SIDE = Bauteilseite
CONDUCTOR SIDE = Leiterbahnseite

Hinweise

Für alle Platinen:

- ○— : Kennzeichnet eine Drahtverbindung auf der Bestückungsseite.
- ▒▒ : Leiterbahndarstellung der Rückseite

Für alle Schaltbilder:

- Die Wertangabe aller Widerstände ohne Bezeichnung ist Ohm 1/4 W (kΩ = 1000 Ω, MΩ = 1000 kΩ).
- Die Wertangabe aller Kondensatoren ohne Bez. ist µF. pF = µµF.
  Spannungsangaben unter 50 V werden nur bei Elektrolyt- oder Tantal-Kondensatoren gemacht.
- : Nichtbrennbare Widerstände
- : Einsteller für Reparatur.
- ▬ : Betriebsspannungsverlauf +
- ➡ : Ein / Ausgang der (+, -) Betriebsspannung.
- Die Gleichspannungsangaben sind vom Meßpunkt auf Masse bezogen.
- Gleichspannungsmessungen mit Digitalvoltmeter (DC 10 MΩ).
- Für die Spannungsangaben gilt die übliche Toleranz von 10 %.
- ⚠ : Sicherheitsbauelement (muß durch Originalteil ersetzt werden).

Notes

For printed wiring boards:

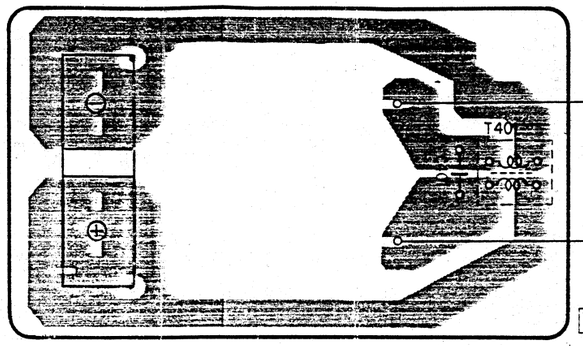
- ○— : Indicated a lead wire mounted on the component side.
- ▒▒ : Pattern of the rear side.

For schematic diagrams:

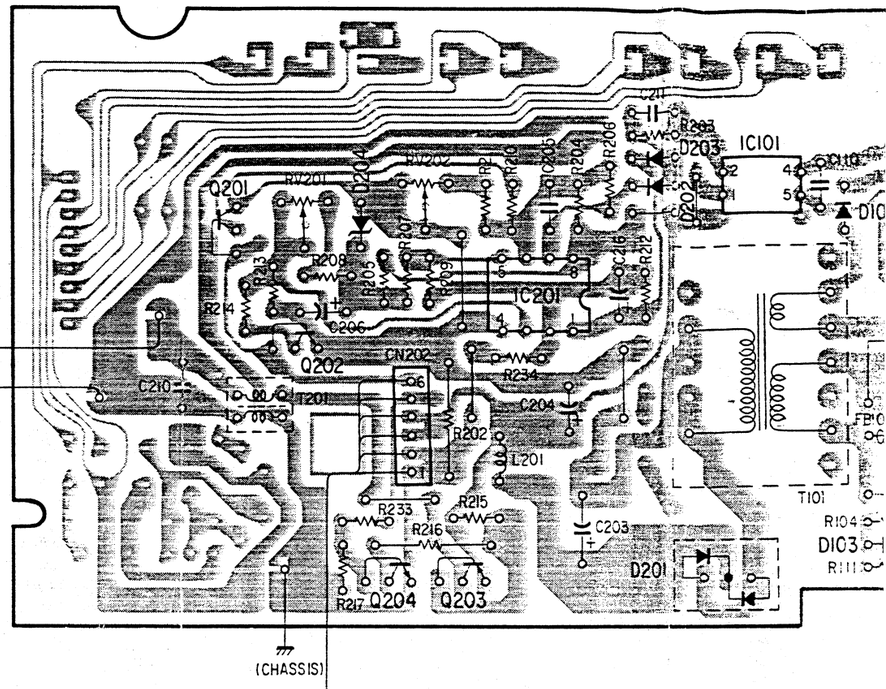
- All resistors are in ohm 1/4 W unless otherwise noted (kΩ = 1000 Ω, MΩ = 1000 kΩ).
- All capacitors are in µF unless otherwise noted. pF = µµF.
  50 V or less are not indicated exept for electrolytics and tantalums.
- : Nonflammable resistors
- : Adjustment for repeair.
- ▬ : B + Line.
- ➡ : IN / OUT direction of (+, -) B Line.
- Voltages are DC between ground and measurement points.
- Readings are taken with a digital voltmeter (DC 10 MΩ).
- Voltage variations may be noted due to normal production tolerances (10 %).
- ⚠ : Security component (Must be replaced by original part)

Platinendarstellung PC-80
Printed Wiring Boards PC-80

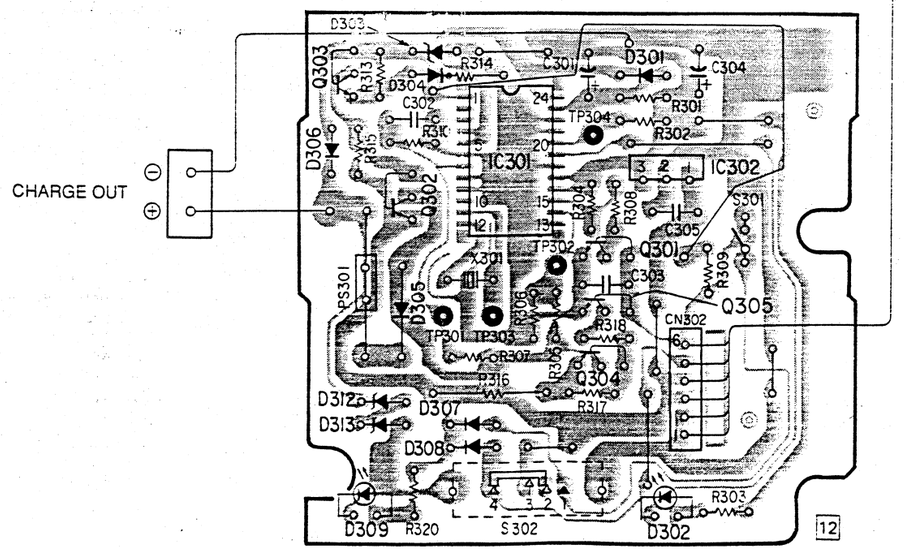
BA-1 Platine / Board



MA-72 Platine / Board

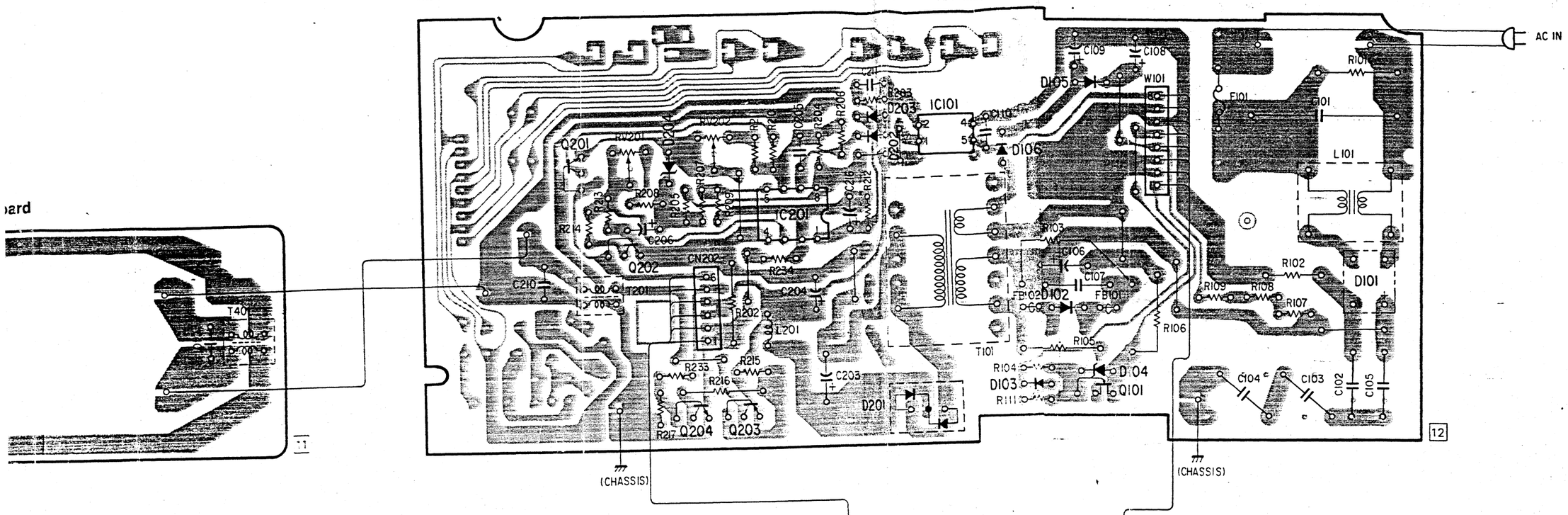


CH-72 Platine / Board

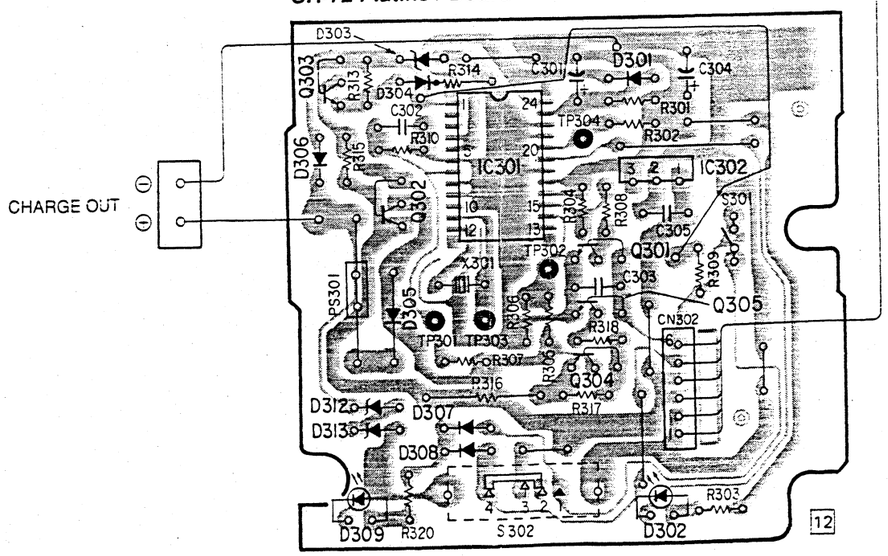


Platinendarstellung PC-80
Printed Wiring Boards PC-80

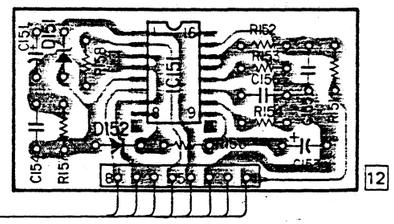
MA-72 Platine / Board



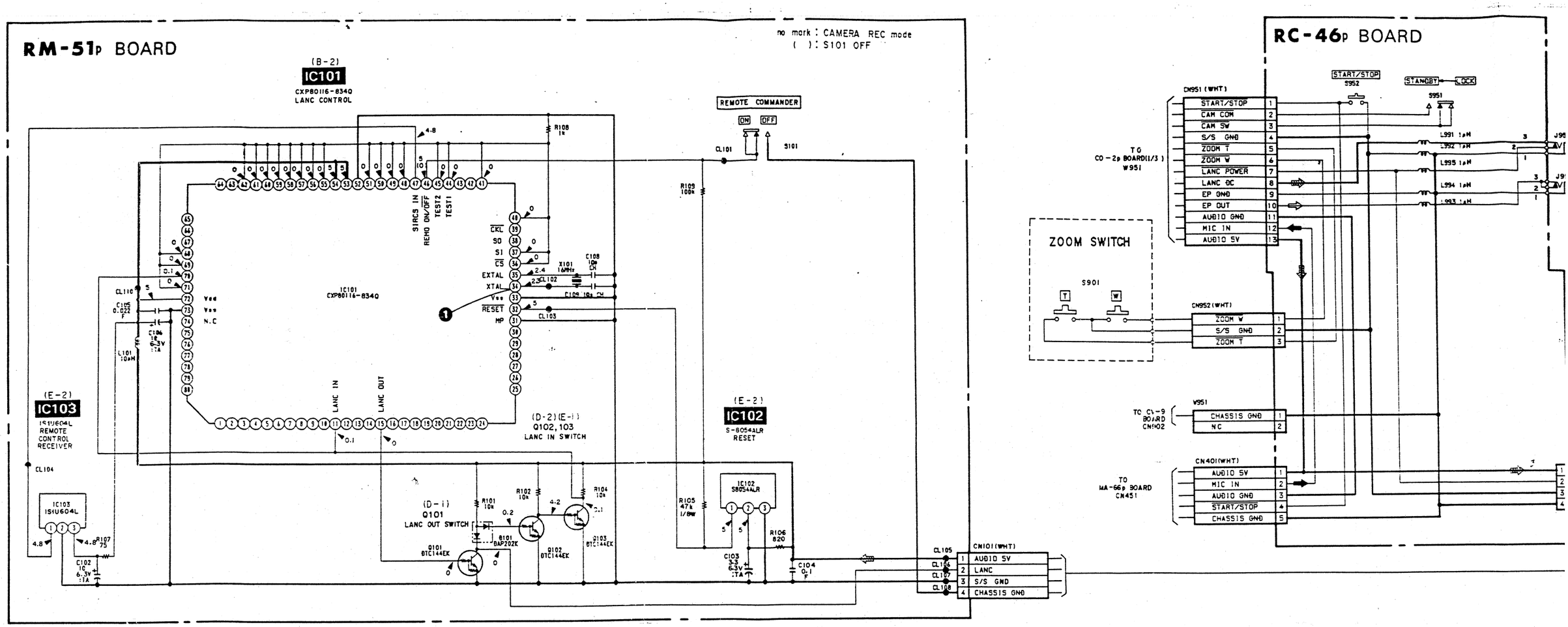
CH-72 Platine / Board



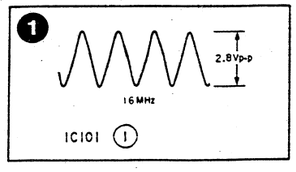
CT-31 Platine / Board



RM-51P (LANC-Steuerung und IR-Empfänger), **RC-46P** (Start/Stop Schalter) **Schaltbild**
RM-51P (LANC-Control and RM Receiver), **RC-46P** (Start/Stop Switch) **Schematic Diagram**

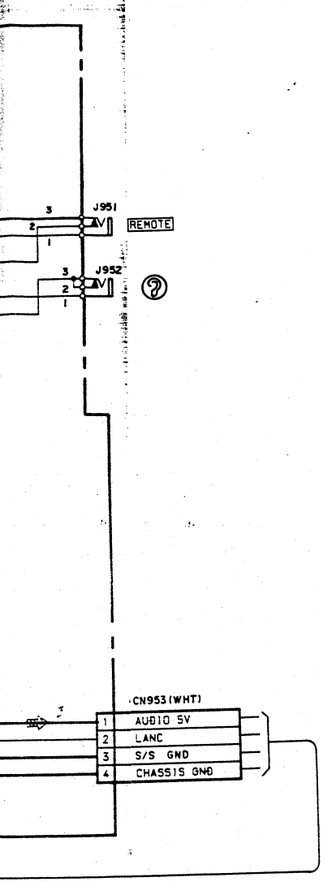


Oszillogramm der RM-51P Platine
RM-51P Waveform



- **Signalweg**
- **Signal path**

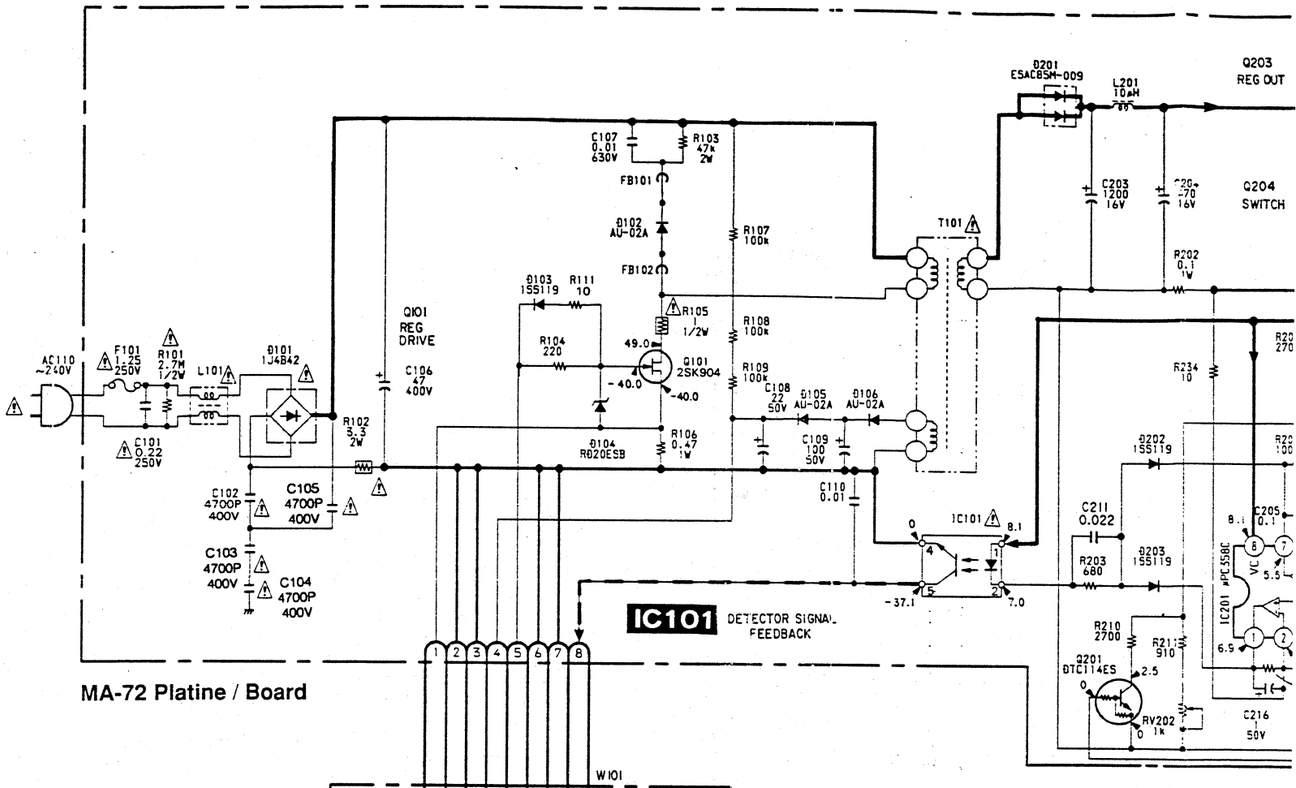
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨



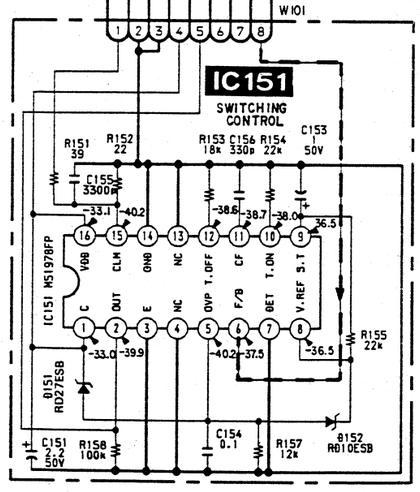
Systemsteuerugs-Mikroprozessor (IC 101=CXP 80116) auf der RM-51P Platine
System Control Microprocessor (IC 101=CXP 80116) on RM-51P Board

Beschaltung / Port Functions Description (I=Input/Eingang, O=Output/Ausgang)

Pin	Signal	I/O	Beschreibung / Description
11	LANC IN	I	LANC Signal Eingang LANC Signal Input
15	LANC OUT	O	LANC Signal Ausgang LANC Signal Output
31	MP	I	Mikroprozessor Eingang. L: Einchip Betrieb Microprocessor mode input. L: Single chip mode
32	$\overline{\text{RESET}}$	I	Zurücksetzen (Reset). L: Reset Reset input. L: Reset
33	VSS	-	Masse Ground (GND)
34	XTAL	O	Systemtakt. 16 MHz Oszillator-Anschluß System clock. 16 MHz oscillator terminal
35	EXTAL	I	
46	REMO ON/$\overline{\text{OFF}}$	I	Fernsteuerbefehl Ein/Aus. L: Aus Remote control On/Off select signal. L: Off
47	SIRCS IN	I	SIRCS-Signal Eingang SIRCS signal input
52	AVSS	-	Spannungsversorgung des A/D-Converters Power supply for A/D converter
53	AVREF	-	Referenzspannung für den A/D-Converter Reference voltage for A/D converter
54	AVSS	-	Masse für den A/D-Converter Ground (GND) terminal for A/D converter
70	LANC IN	I	LANC-Signal Eingang LANC signal input
72	VDD	-	Spannungsversorgung Power supply input
73	VSS	-	Masse Ground (GND)



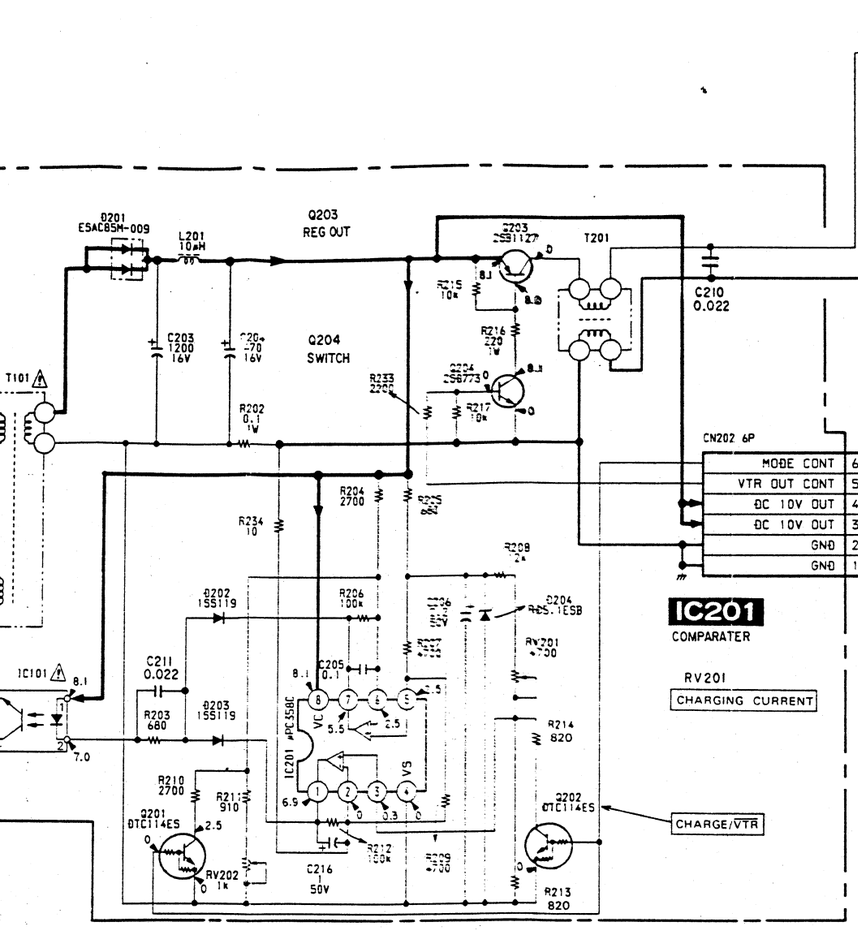
MA-72 Platine / Board



CT-31 Platine / Board

Schaltbild PC-80
Schematic Diagram PC-80

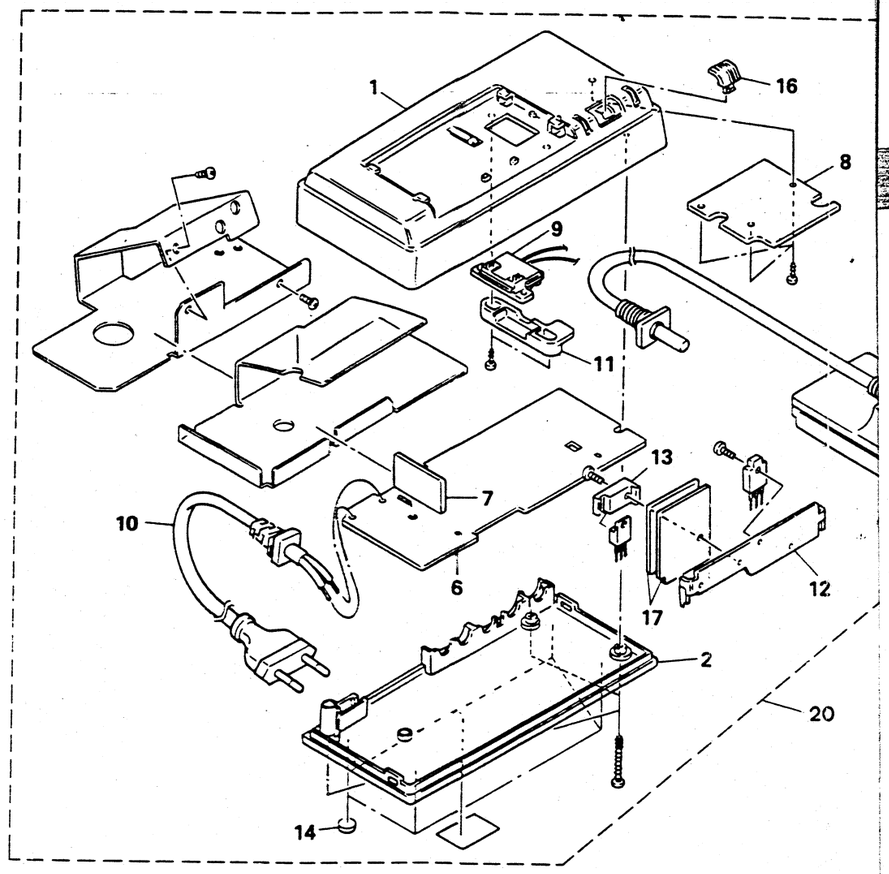
BA-1 Platine / Board



CH-72 Platine / Board

IC301
CHARGE CONTROL

PC-80 Explosionszeichnung
PC-80 Exploded View



Lfd. Nr. Item no.	Bestell-Nr. Part no.
1	8 619 531 538
2	8 619 531 539
5	8 619 521 670
6	8 619 521 985 (MA-72)
7	8 619 521 986 (CT-31)
8	8 619 521 984 (CH-72)
9	8 619 521 227
10	8 619 591 703
11	8 619 531 540
12	8 619 531 542
13	8 619 531 541
14	8 619 581 029
16	8 619 511 017
17	8 619 511 917
20	8 627 105 424

Ersatzteilliste PC-80

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
Wichtige mech. Bauteile PC-80 Important mechanical parts PC-80			
1	Netzadapter PC-80 kompl. AC power adaptor PC-80 compl.		8 627 105 424
2	Verb.-kabel (Platte) für PC-80 Connecting cord (plate) for PC-80		8 619 521 670
MA-72 Platine MA-72 Board			**8 619 521 985**
W 101	Folienkabel Flexible cable		8 619 521 673
C 101	0,22 µF	250 V	8 942 899 278
C 102	4,7 nF	400 V	8 942 899 270
C 103	4,7 nF	400 V	8 942 899 270
C 104	4,7 nF	400 V	8 942 899 270
C 105	4,7 nF	400 V	8 942 899 270
C 106	47 µF	400 V	8 943 499 275
C 107	10 nF	630 V	8 942 899 277
CN 202	6 pol.		8 619 521 672
D 101	1 J 4 B 42		8 945 406 174
D 102	AU 02 A		8 945 406 153
D 103	1 SS 119-04		8 945 405 995
D 104	RD 20 ES-B 2		8 945 421 437
D 105	AU 02 A		8 945 406 153
D 106	AU 02 A		8 945 406 153
D 201	ESAC 85-009		8 945 406 154
D 202	1 SS 119-04		8 945 405 995
D 203	1 SS 119-04		8 945 405 995
D 204	RD 5,1 ES-T 1 B 2		8 945 421 447
F 101	T 250 V / 1,25 A		1 904 522 838
IC 101	PC 113 A		8 945 705 746
IC 201	UPC 358 C		8 905 956 757
L 101			8 619 531 013
L 201	10 µH		8 619 531 035
Q 101	2 SK 904		8 945 706 120
Q 201	DTC 114 ES		8 945 705 621

PC-80 Spare Parts List

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
Q 202	DTC 114 ES		8 945 705 621
Q 203	2 SB 1127-R		8 945 706 121
Q 204	2 SD 773-T-3		8 945 706 123
R 101	2,7 MΩ	0,5 W	8 940 599 686
R 102	3,3 Ω	2 W	8 940 599 660
R 103	47 kΩ	2 W	8 940 599 663
R 105	1 Ω	0,5 W	8 940 599 687
R 106	0,47 Ω	1 W	8 940 599 662
R 202	0,1 Ω	1 W	8 940 599 688
R 216	220 Ω	1 W	8 940 599 689
RV 201	5 kΩ		8 941 599 748
RV 202	1 kΩ		8 941 599 770
T 101			8 619 531 206
T 201			8 619 531 034
CH-72 Platine CH-72 Board			**8 619 521 984**
CN 302	6 pol.		8 619 521 671
D 301	1 SS 119-04		8 945 405 995
D 302	GL 3 HY 8		8 945 406 172
D 303	RD 5,1 ES-T 1 B 2		8 945 421 447
D 304	1 SS 119-04		8 945 405 995
D 305	ERB 81004		8 905 406 083
D 306	1 SS 119-04		8 945 405 995
D 307	1 SS 119-04		8 945 405 995
D 308	1 SS 119-04		8 945 405 995
D 309	GL 3 PG 8		8 945 406 173
D 312	RD 15 ES-T 1 B 2		8 945 421 448
IC 301	MB 88211-141 K		8 925 900 553
IC 302	UPC 78 L 05 J		8 945 902 073
PS 301	2 A		8 940 599 677
Q 301	DTC 114 ES		8 945 705 621
Q 302	2 SB 1127-R		8 945 706 121
Q 303	2 SD 773-4		8 945 706 097
Q 304	2 SA 117 5TP-H		8 945 706 122
Q 305	DTC 114 ES		8 945 705 621

Ersatzteilliste PC-80

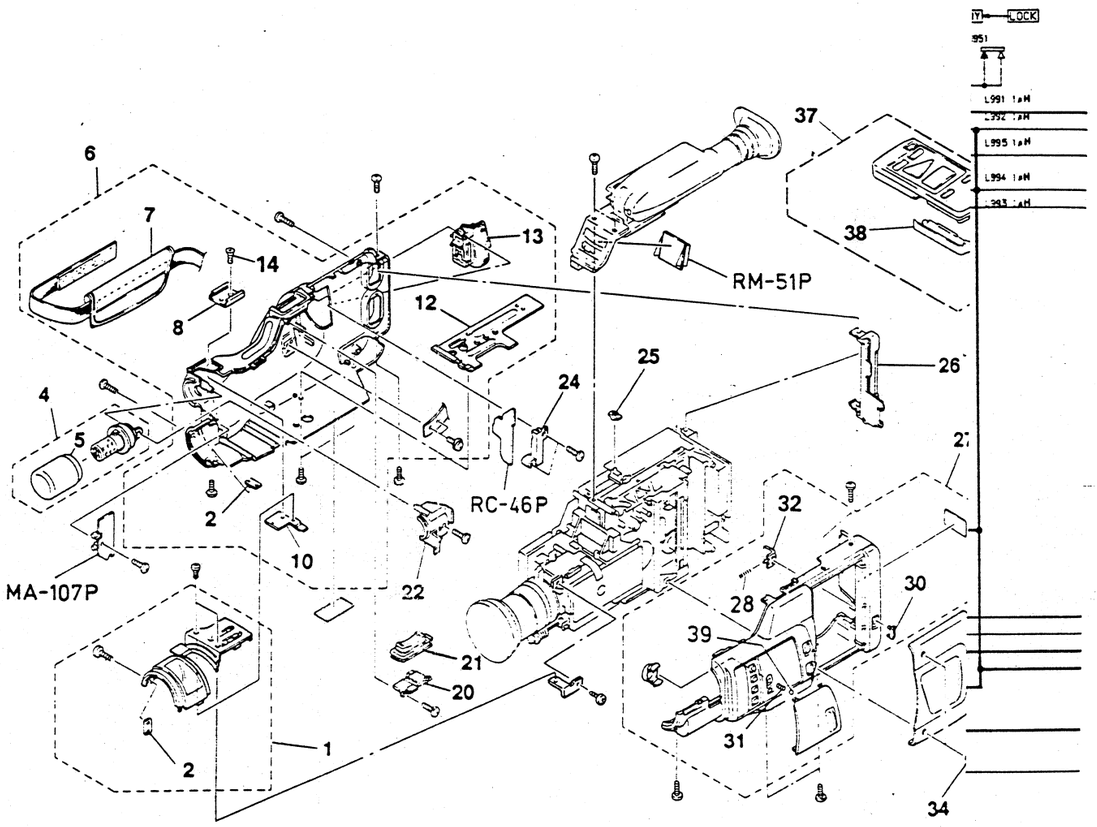
Position Position	Bezeichnung Designation		Bes Par
R 316	100 Ω	1 W	8 9
SW 301	DC-POWER (BATT)		8 6
SW 302	POWER		8 6
X 301	4 MHz		8 9
CT-31 Platine CT-31 Board			**8 6**
D 151	RD 24 ES		8 9
D 152	RD 10 ES-T 1 B 2		8 9
IC 151	M 51978 FP-T1		8 9
BA-1 Platine BA-1 Board			**8 6**
T 401			8 61

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
R 316	100 Ω	1 W	8 940 599 685
SW 301	DC-POWER (BATT)		8 619 521 213
SW 302	POWER		8 619 521 228
X 301	4 MHz		8 946 193 343
CT-31 Platine CT-31 Board			**8 619 521 986**
D 151	RD 24 ES		8 945 421 372
D 152	RD 10 ES-T 1 B 2		8 945 421 449
IC 151	M 51978 FP-T1		8 925 900 554
BA-1 Platine BA-1 Board			**8 619 521 987**
T 401			8 619 531 034

Hinweis:
Handelsübliche Kondensatoren und Widerstände sind in der Ersatzteilliste nicht aufgeführt. Wir bitten Sie, diese Teile im Fachhandel zu beziehen.

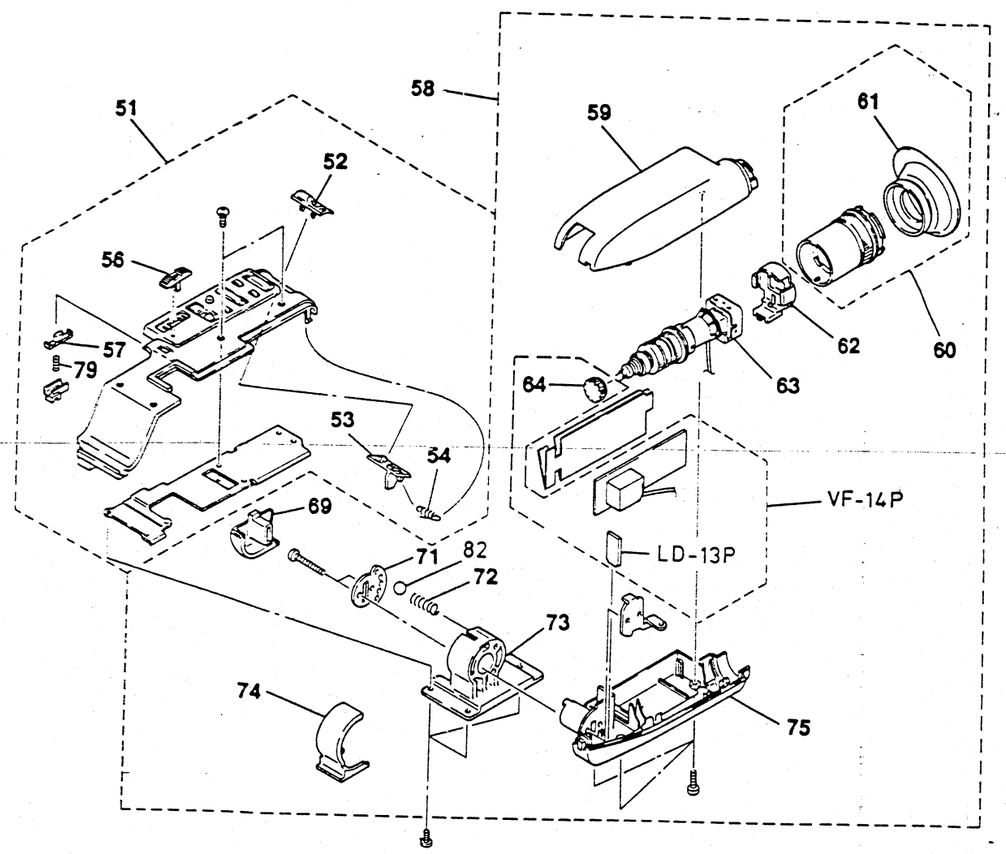
Note:
Capacitors and resistors usual in trade are not mentioned in the spare parts list. Kindly buy these parts from the specialized trade.

CR-8110 Explosionszeichnung (1) Gehäuseteile (R, L)
CR-8110 Exploded View (1) Cabinet (R, L) Assembly



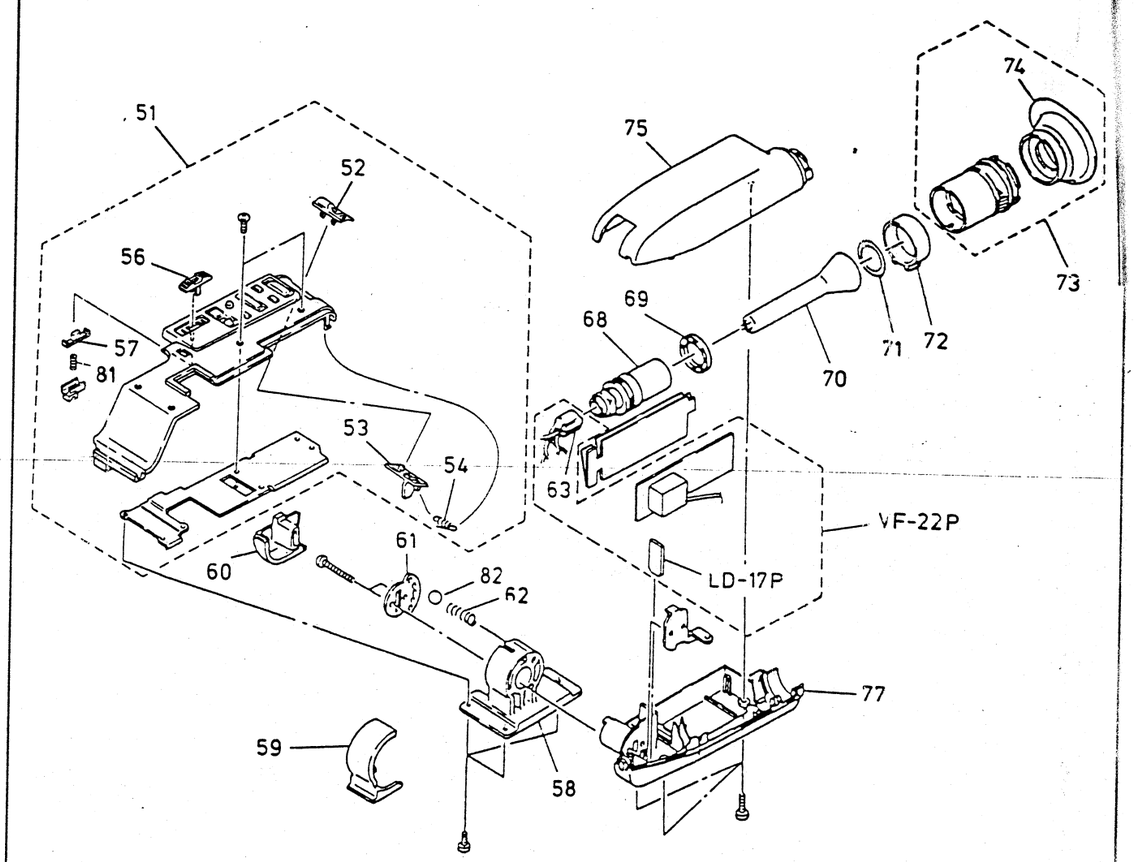
Lfd. Nr. Item no.	Bestell-Nr. Part no.	Lfd. Nr. Item no.	Bestell-Nr. Part no.
1	8 619 581 094	24	8 619 511 192
2	8 619 511 186	25	8 619 511 012
4	8 619 591 507	26	8 619 581 120
5	8 619 591 506	27	8 619 581 096
6	8 619 581 095	28	8 619 511 630
7	8 619 591 839	30	8 619 511 013
8	8 619 511 187	31	8 619 511 631
10	8 619 511 188	32	8 619 531 536
12	8 619 511 189	33	8 619 581 097
13	8 619 511 011	34	8 619 511 533
14	8 619 511 532	37	8 619 591 837
20	8 619 511 190	38	8 619 581 098
21	8 619 521 218	39	8 619 511 536
22	8 619 501 186		

CR-8110 Explosionszeichnung (2) Gehäuseteile (oben), Sucher (Typ A)
CR-8110 Exploded View (2) Cabinet (upper), EVF Assembly (Type A)



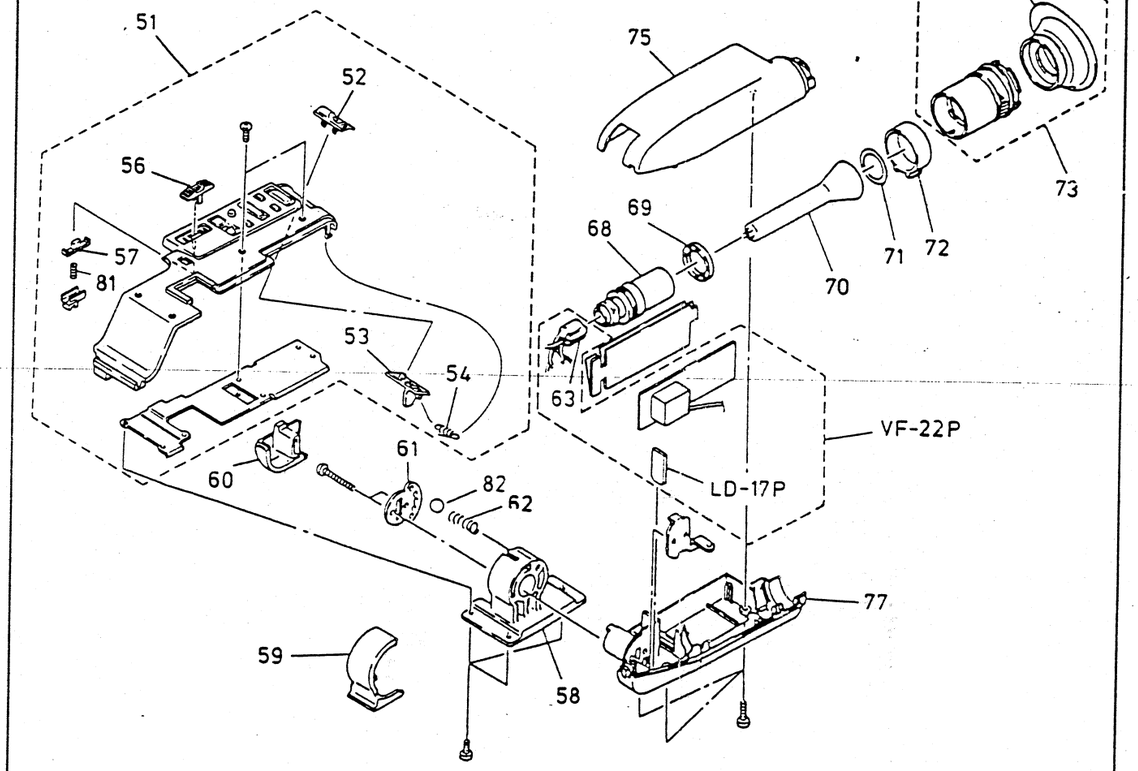
Lfd. Nr. Item no.	Bestell-Nr. Part no.	Lfd. Nr. Item no.	Bestell-Nr. Part no.
51	8 619 581 099	63	8 619 581 504
52	8 619 511 014	64	8 619 521 649
53	8 619 511 193	69	8 619 591 213
54	8 619 511 632	71	8 619 511 354
56	8 619 511 015	72	8 619 511 633
57	8 619 511 016	73	8 619 591 214
58	8 619 591 210	74	8 619 591 215
59	8 619 591 211	75	8 619 591 216
60	8 619 591 212	79	8 619 511 600
61	8 619 511 911	82	8 619 511 537
62	8 619 511 713		

CR-8110 Explosionszeichnung (3) Gehäuseteile (oben), Sucher (Typ B)
CR-8110 Exploded View (3) Cabinet (upper), EVF Assembly (Type B)



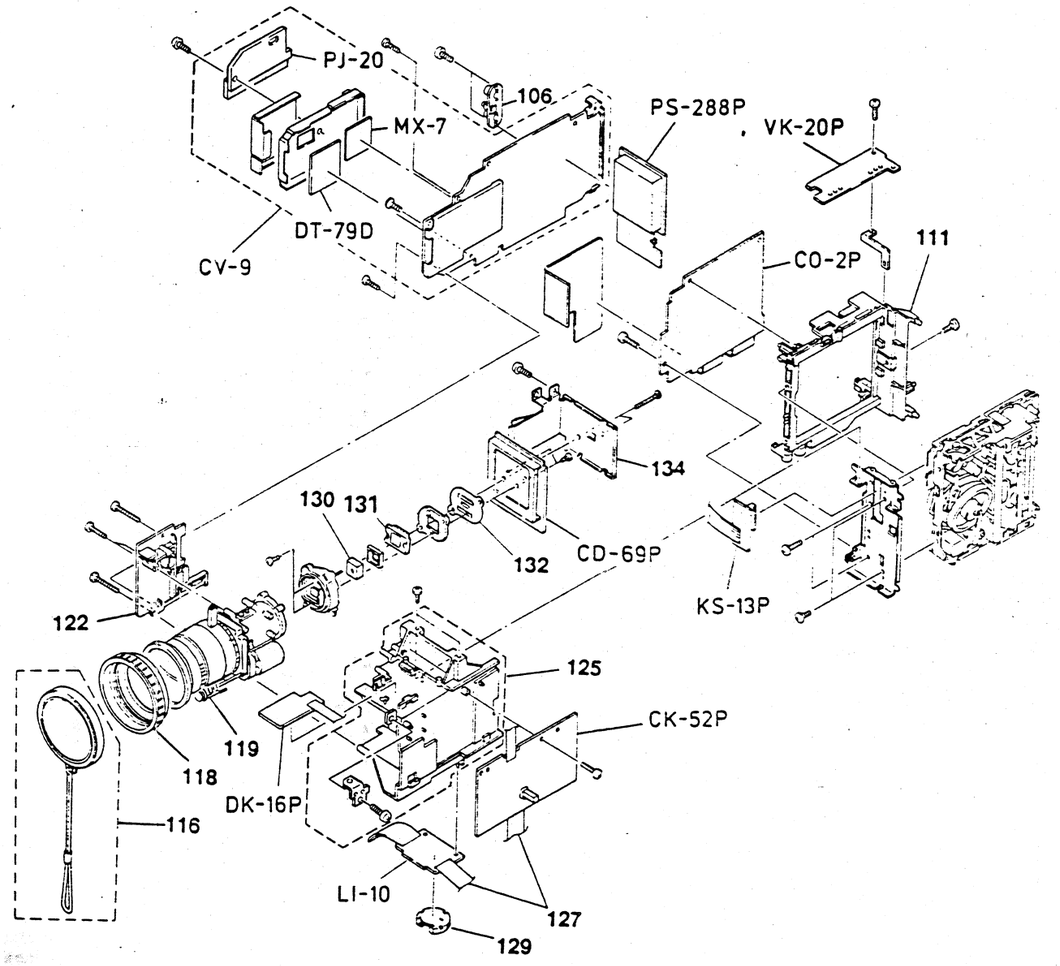
Lfd. Nr. Item no.	Bestell-Nr. Part no.	Lfd. Nr. Item no.	Bestell-Nr. Part no.
51	8 619 581 099	68	8 619 531 500
52	8 619 511 014	69	8 619 511 425
53	8 619 511 193	70	8 619 581 507
54	8 619 511 632	71	8 619 511 426
56	8 619 511 015	72	8 619 531 537
57	8 619 511 016	73	8 619 591 212
58	8 619 591 214	74	8 619 511 911
59	8 619 591 215	75	8 619 591 211
60	8 619 591 213	77	8 619 591 216
61	8 619 511 354	81	8 619 511 600
62	8 619 511 633	82	8 619 511 537
63	8 619 521 658		

CR-8110 Explosionszeichnung (3) Gehäuseteile (oben), Sucher (Typ B)
CR-8110 Exploded View (3) Cabinet (upper), EVF Assembly (Type B)



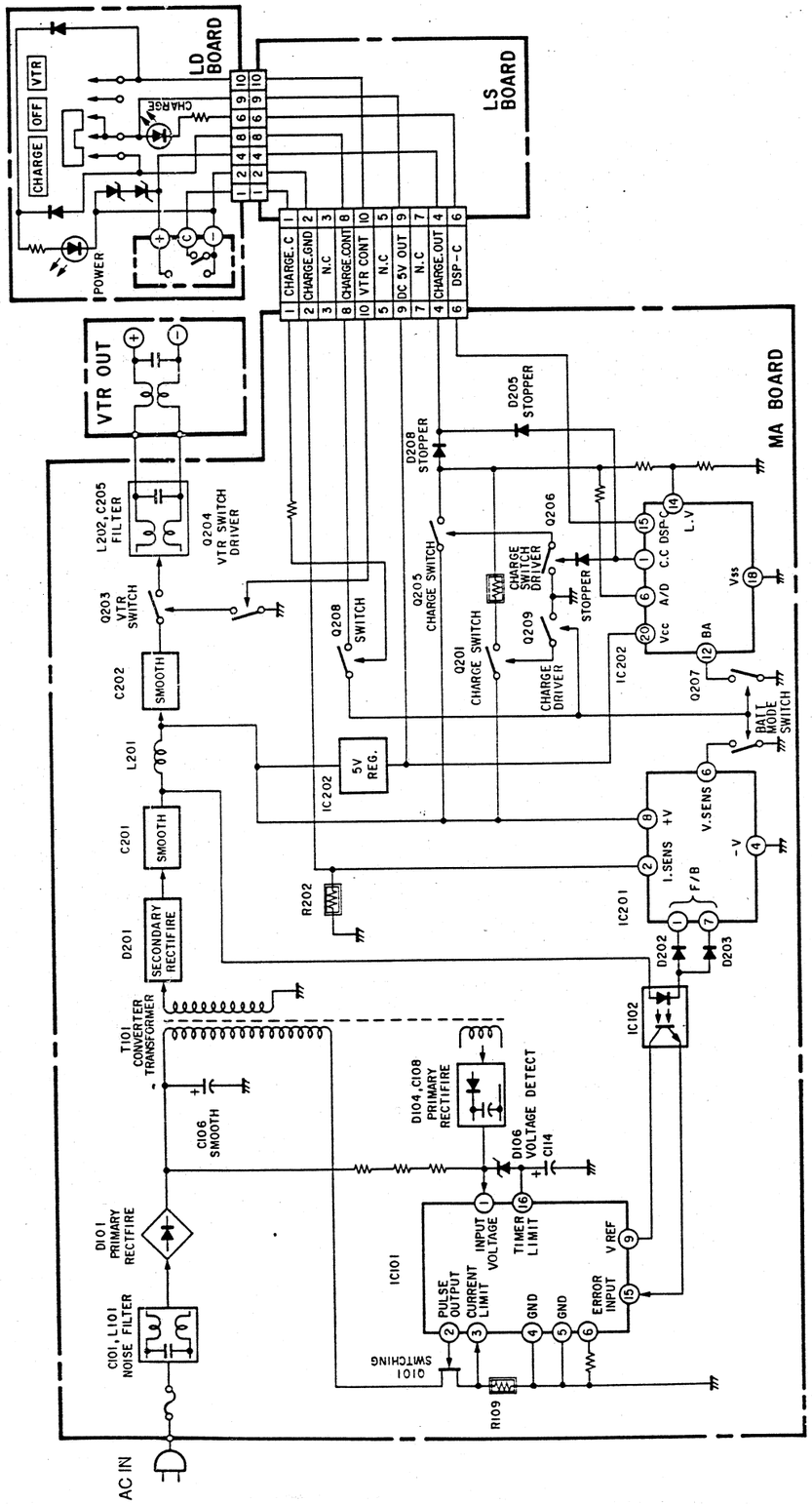
Lfd. Nr. Item no.	Bestell-Nr. Part no.	Lfd. Nr. Item no.	Bestell-Nr. Part no.
51	8 619 581 099	68	8 619 531 500
52	8 619 511 014	69	8 619 511 425
53	8 619 511 193	70	8 619 581 507
54	8 619 511 632	71	8 619 511 426
56	8 619 511 015	72	8 619 531 537
57	8 619 511 016	73	8 619 591 212
58	8 619 591 214	74	8 619 511 911
59	8 619 591 215	75	8 619 591 211
60	8 619 591 213	77	8 619 591 216
61	8 619 511 354	81	8 619 511 600
62	8 619 511 633	82	8 619 511 537
63	8 619 521 658		

CR-8110 Explosionszeichnung (4) Hauptplatinenteile
CR-8110 Exploded View (4) Main Board Assembly



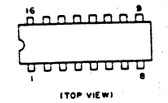
Lfd. Nr. Item no.	Bestell-Nr. Part no.	Lfd. Nr. Item no.	Bestell-Nr. Part no.
106	8 619 521 651	127	8 619 591 720
111	8 619 511 194	129	8 619 511 197
116	8 619 511 912	130	8 619 511 715
118	8 619 511 421	131	8 619 581 506
119	8 619 511 714	132	8 619 511 913
122	8 619 511 195	134	8 619 511 802
125	8 619 511 196		

Blockschaltbild PC-80 A
Block Diagram PC-80 A

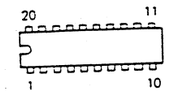


Halbleiter-Anschlußpunkte PC-80 A
Semi Conductor Connections PC-80 A

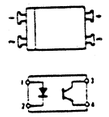
HA16107P



M88211P-G-171N

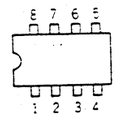


PC113
TLP621

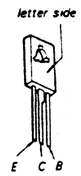


RC78L05A

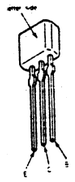
µPC358C



2SB1140-S



2SC2785-HFE

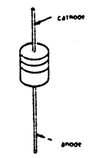


2SD773

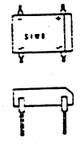
2SK1572S

DTA114ES
DTB143ES
DTC144ES

1SR139-400
1SS119
RD15ES-B1
RD24ES-B3
RD5.1ES-T1B2

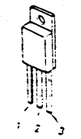


DF06M



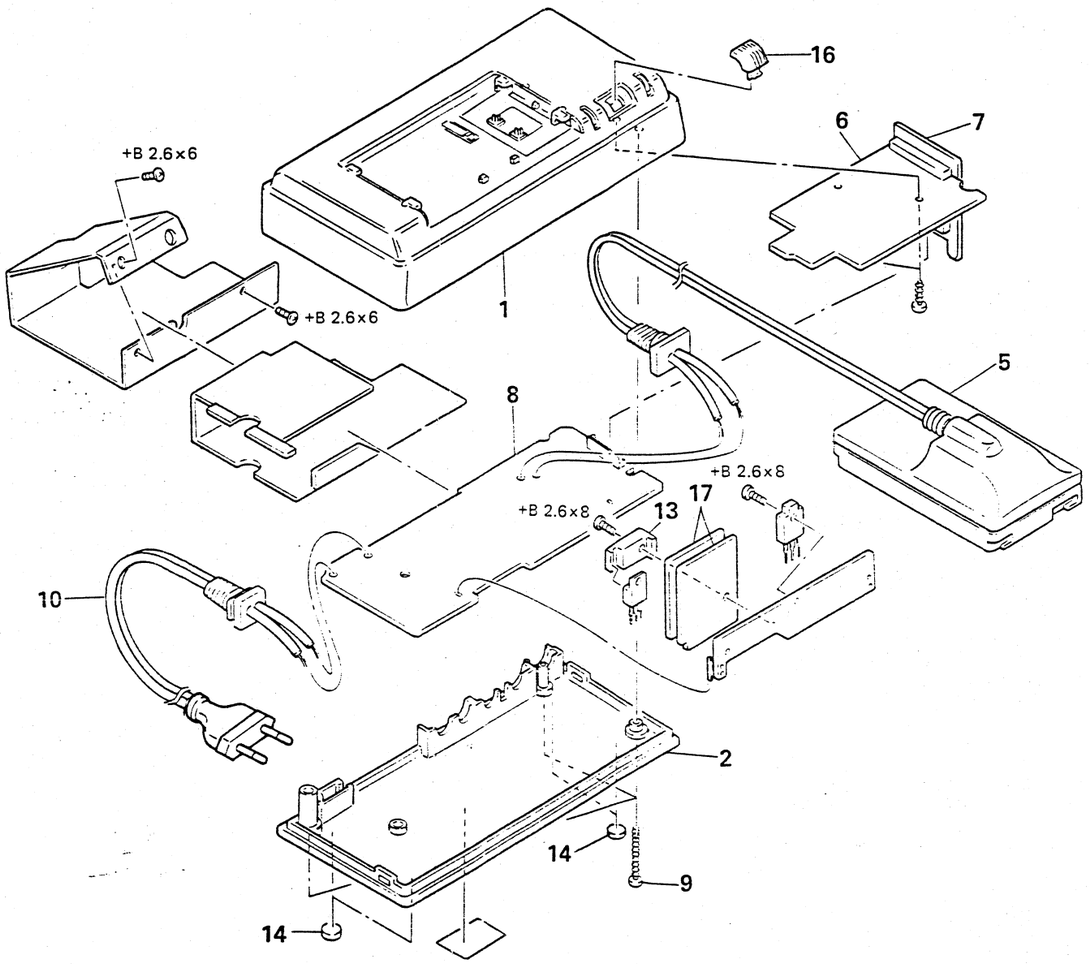
ERA22-06
ERB83-004

F10P10Q



SLR-34DC3
SLR-34MC3

PC-80 A Explosionszeichnung
PC-80 A Exploded View



Lfd. Nr. Item no.	Bestell-Nr. Part no.
1	8 619 581 061
2	8 619 531 539
5	8 619 591 836
6	8 619 581 226 (LD Platine / Board)
7	8 619 581 227 (LS Platine / Board)
8	8 619 581 228 (MA Platine / Board)
9	8 619 511 553
10	8 619 591 738
13	8 619 581 105
14	8 619 581 029
16	8 619 511 017
17	8 619 511 923

Ersatzteilliste PC-80 A

PC-80 A Spare Parts List

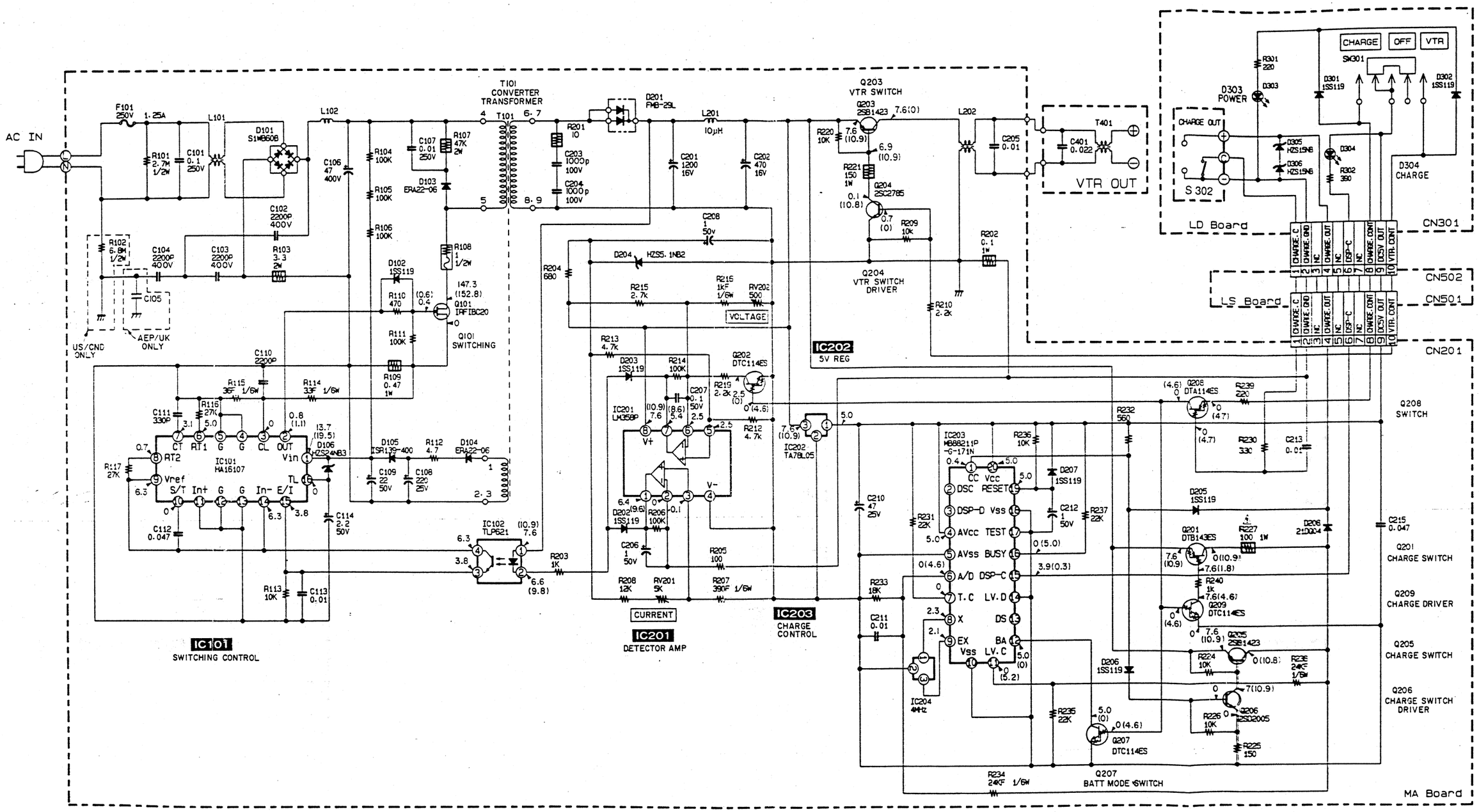
Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
	Wichtige mech. Bauteile PC-80 A **Important mechanical parts PC-80 A**		
1	Netzadapter PC-80 A (PC-80) kompl. AC power adaptor PC-80 A (PC-80) compl.		8 627 105 424
2	Verb.-kabel (Platte) für PC-80 A Conn. cord (plate) for PC-80 A		8 619 591 836
	LD-Platine **LD Board**		**8 619 581 226**
	Halbleiter		
D 301	1 SS 119		8 945 405 995
D 302	1 SS 119		8 945 405 995
D 303	SLR-34 MC3 (LED)		8 945 406 287
D 304	SLR-34 DC3 (LED)		8 945 406 288
D 305	15ES-T1B1		8 945 421 440
D 306	15ES-T1B1		8 945 421 440
	Schalter		
SW 301	POWER		8 619 521 223
	MA-Platine **MA Board**		**8 619 581 228**
1	Sicherungshalter Fuse holder		8 619 521 247
	Kondensatoren		
C 101	0.1 µF	250 V	8 942 899 285
C 101	0.22 µF	250 V	8 942 899 278
C 102	2.2 nF	400 V	8 942 899 276
C 102	4.7 nF	400 V	8 942 899 270
C 103	2.2 nF	400 V	8 942 899 276
C 103	4.7 nF	400 V	8 942 899 270
C 104	2.2 nF	400 V	8 942 899 276
C 104	4.7 nF	400 V	8 942 899 270
C 105	2.2 nF	400 V	8 942 899 276
C 105	4.7 nF	400 V	8 942 899 270
C 106	47 µF	400 V	8 943 499 275
	Halbleiter		
D 101	DF 06M		8 945 406 152
D 102	1 SS 119		8 945 405 995
D 103	ERA 22-06		8 945 405 864
D 104	ERA 22-06		8 945 405 864
D 105	1 SR 139-400T-32		8 945 406 284
D 106	RD 24 ES-B3		8 945 421 459
D 201	F 10 P10Q		8 945 406 289
D 202	1 SS 119		8 945 405 995
D 203	1 SS 119		8 945 405 995
D 204	RD 5.1 ES-B 2		8 945 421 436
D 205	1 SS 119		8 945 405 995
D 206	1 SS 119		8 945 405 995
D 207	1 SS 119		8 945 405 995
D 208	ERB 83-004		8 945 406 007
D 307	1 SS 119		8 945 405 995

Position Position	Bezeichnung Designation		Bestell-Nr. Part no.
	Sicherungen		
F 101	T 250 V / 1.25 A		1 904 522 838
	Integrierte Schaltungen		
IC 101	HA 16107 P		8 945 903 193
IC 102	PC 113		8 945 903 194
IC 201	UPC 358 C		8 905 956 757
IC 202	RC 78L05 A		8 945 903 195
IC 203	M 88211 P-S-171 N		8 945 903 196
IC 204	FAR-C4LA		8 945 903 104
	Spulen		
L 101			8 619 531 013
L 102			8 619 531 051
L 201			8 619 531 014
L 202	(1-421-751-11)		8 619 531 015
L 202	(1-424-216-11)		8 619 531 050
	Transistoren		
Q 101	2 SK 1572		8 945 706 145
Q 201	DTB 143 ES		8 945 706 146
Q 202	DTC 114 ES		8 945 705 621
Q 203	2 SB 1140-S		8 945 706 147
Q 204	2 SC 2785 HFE		8 945 706 148
Q 205	2 SB 1140-S		8 945 706 147
Q 206	2 SD 773-4		8 945 706 097
Q 207	DTC 114 ES		8 945 705 621
Q 208	DTA 114 ES		8 945 705 630
Q 209	DTC 114 ES		8 945 705 621
	Widerstände		
R 101	2.7 MΩ	0.5 W	8 940 599 721
R 103	3.3 Ω	2 W	8 940 599 660
R 107	47 kΩ	2 W	8 940 599 663
R 108	1 Ω	0.5 W	8 940 599 661
R 109	0.47 Ω	1 W	8 940 599 662
R 201	10 Ω	0.25 W	8 940 599 720
R 202	0.1 Ω	1 W	8 940 599 664
R 221	150 Ω	1 W	8 940 599 722
R 227	100 Ω	1 W	8 940 599 685
	Trimmer		
RV 201	5 kΩ		8 941 599 748
RV 202	500 Ω		8 941 599 812
	Übertrager		
T 101			8 619 531 207

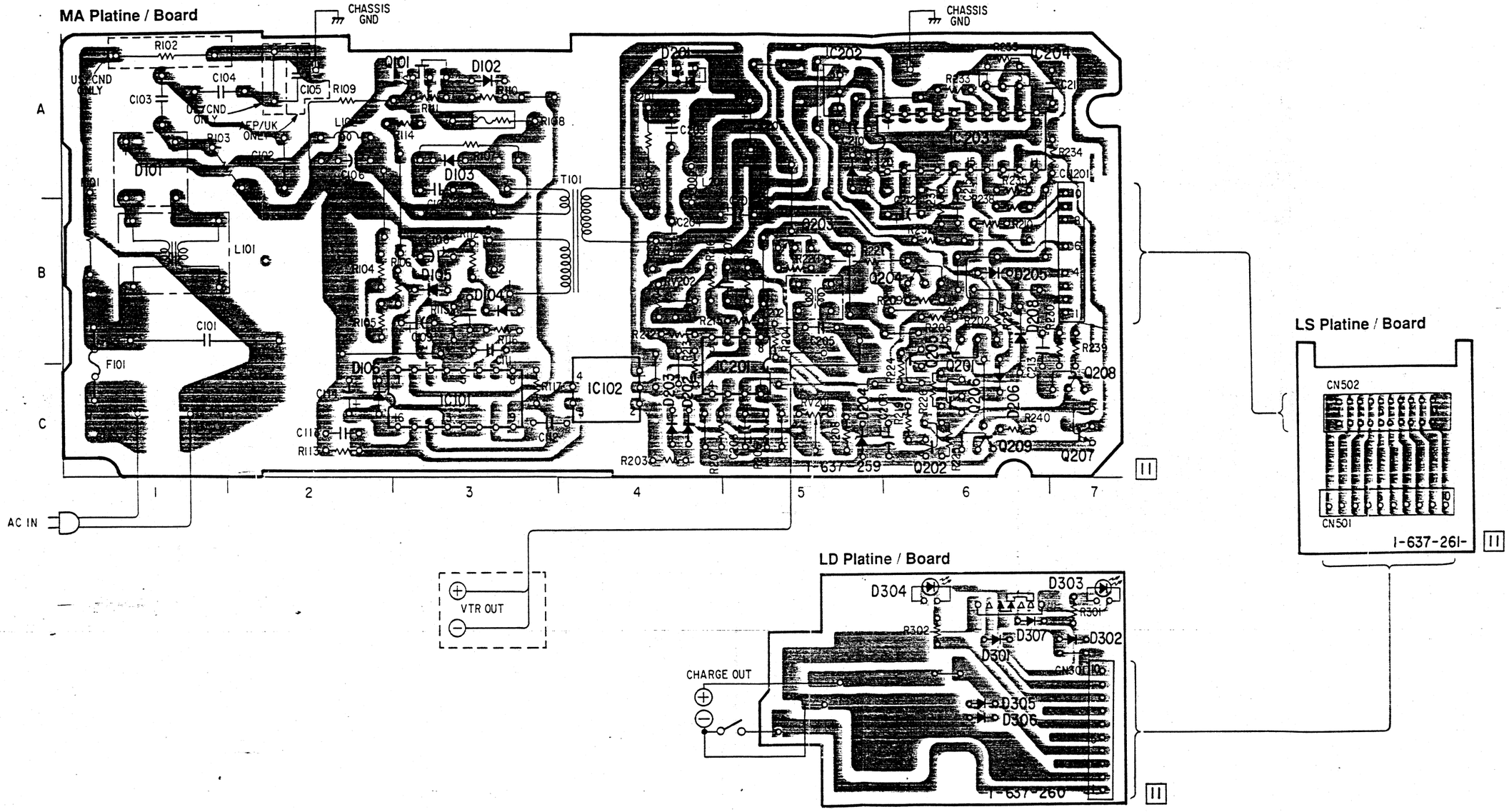
Hinweis:
Handelsübliche Kondensatoren und Widerstände sind in der Ersatzteilliste nicht aufgeführt. Wir bitten Sie, diese Teile im Fachhandel zu beziehen.

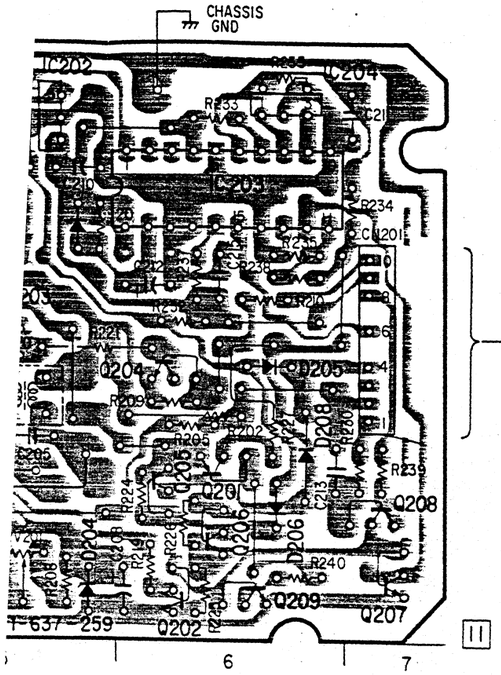
Note:
Capacitors and resistors usual in trade are not mentioned in the spare parts list. Kindly buy these parts from the specialized trade.

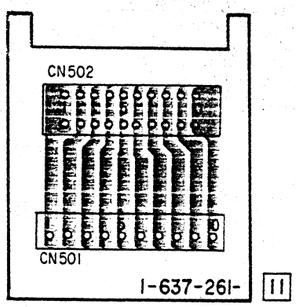
Schaltbild PC-80 A
Schematic Diagram PC-80 A

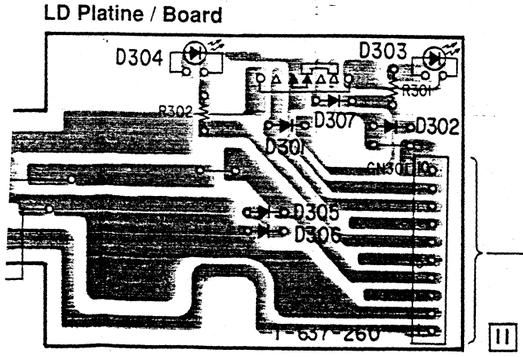


Platinendarstellung PC-80 A
Printed Wiring Boards PC-80 A

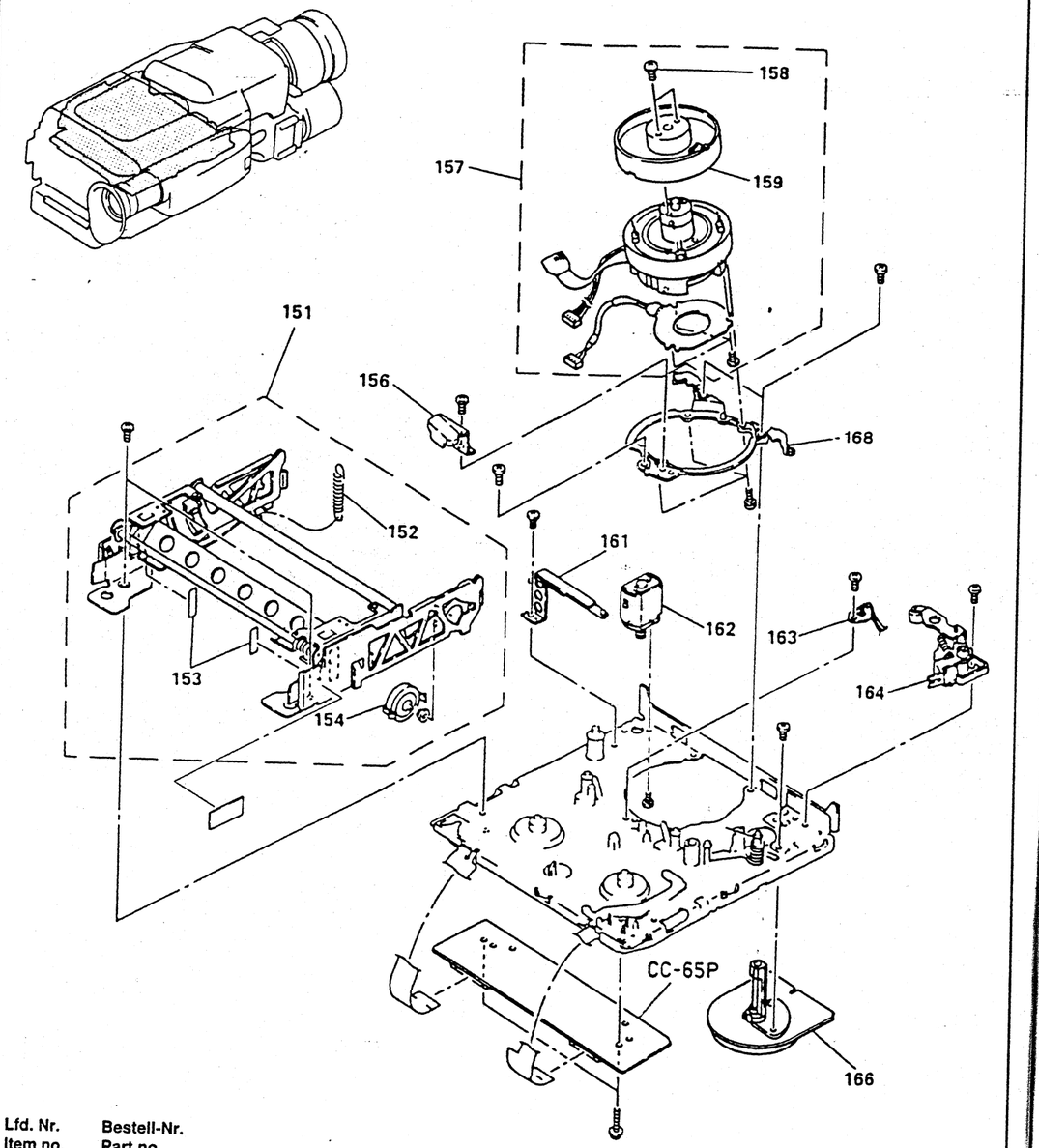






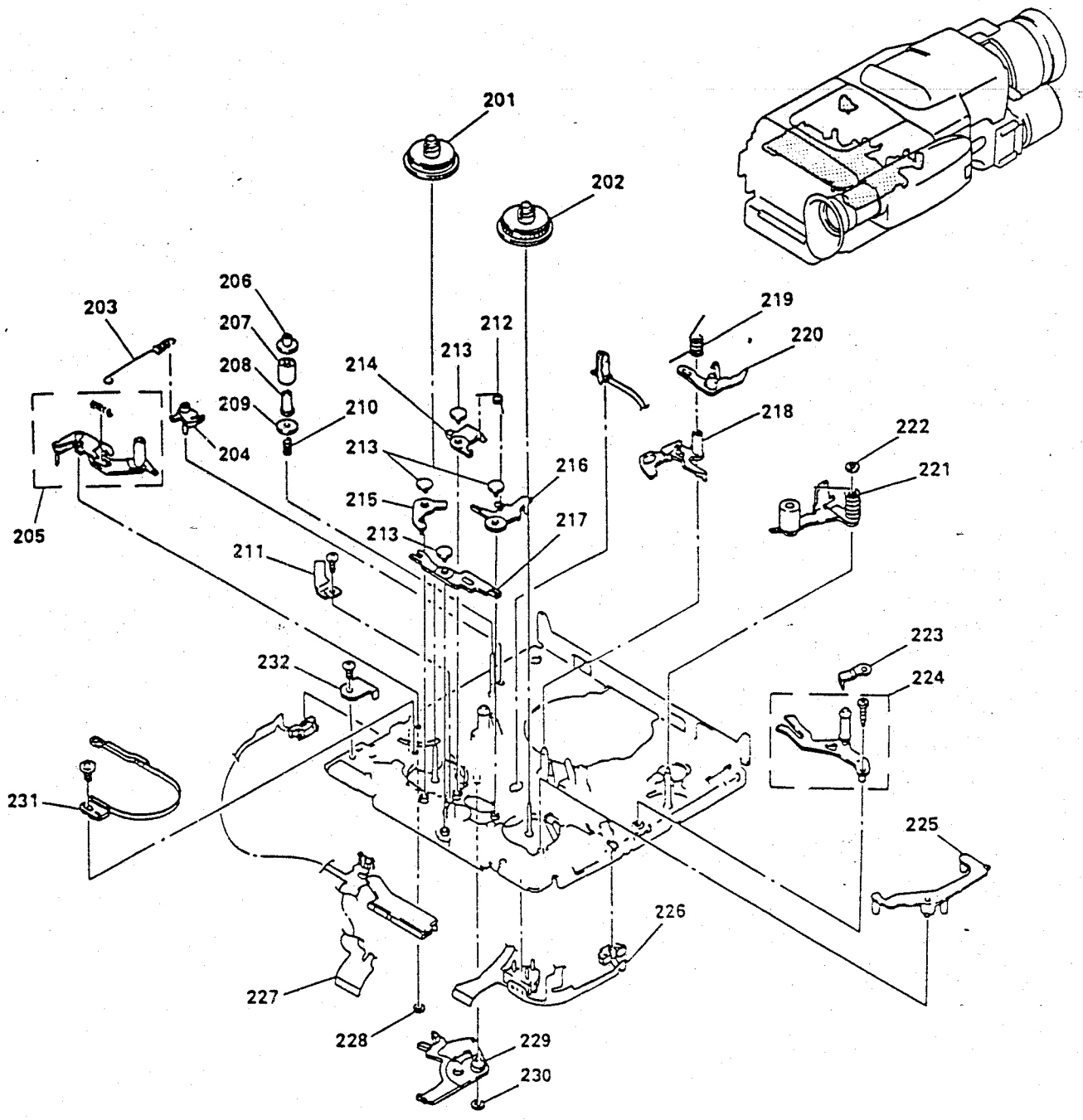


CR-8110 Explosionszeichnung (5) Chassisteile 1
CR-8110 Exploded View (5) MD Block Assembly 1



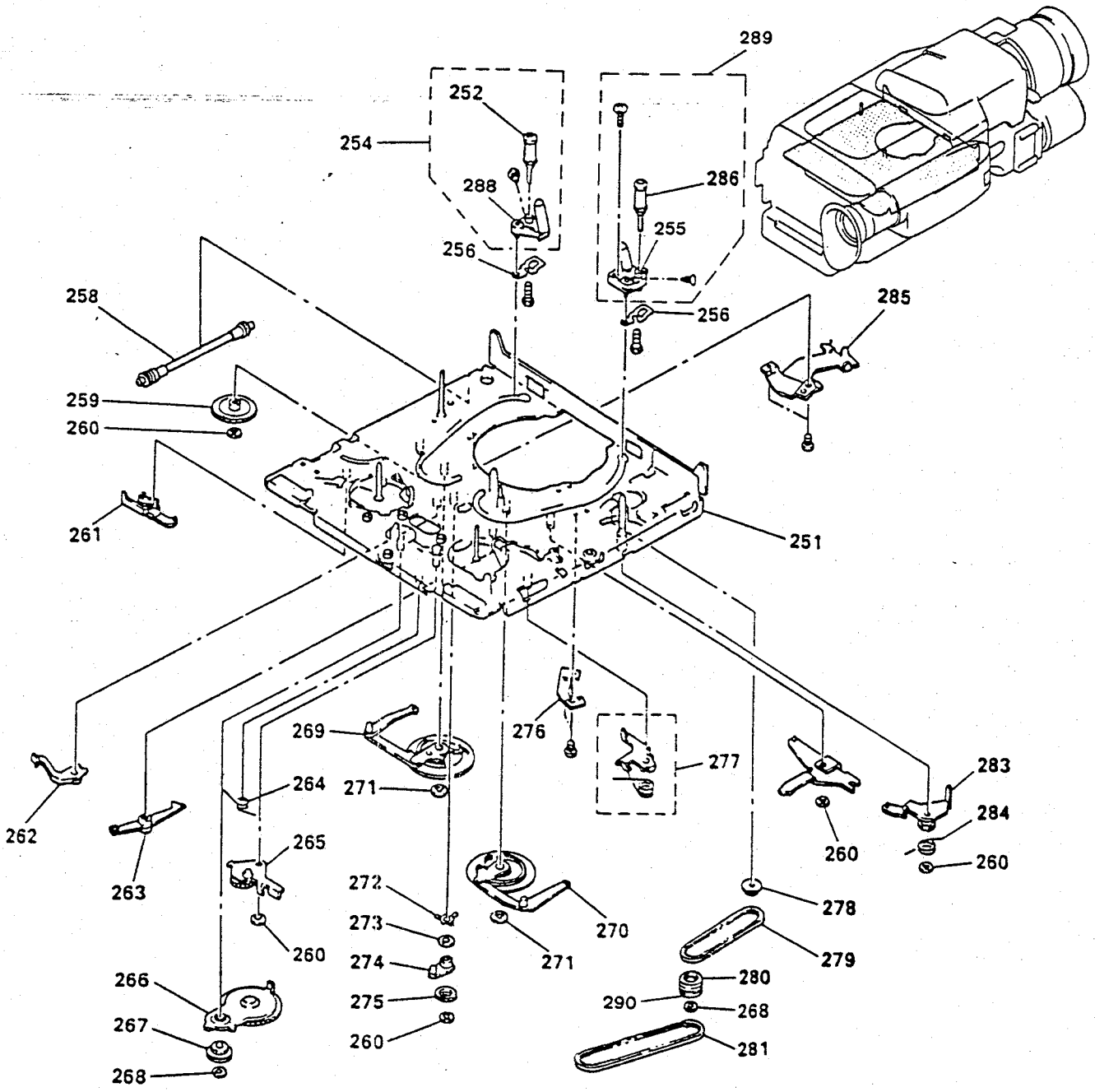
Lfd. Nr. Item no.	Bestell-Nr. Part no.
151	8 619 501 194
152	8 619 511 604
153	8 619 511 907
154	8 619 511 900
156	8 619 511 198
157	8 619 521 410
158	8 619 511 534
159	8 619 511 400
161	8 619 511 199
162	8 619 521 401
163	8 619 521 500
164	8 619 511 112
166	8 619 521 400
168	8 619 531 535

CR-8110 Explosionszeichnung (6) Chassisteile 2
CR-8110 Exploded View (6) MD Block Assembly 2



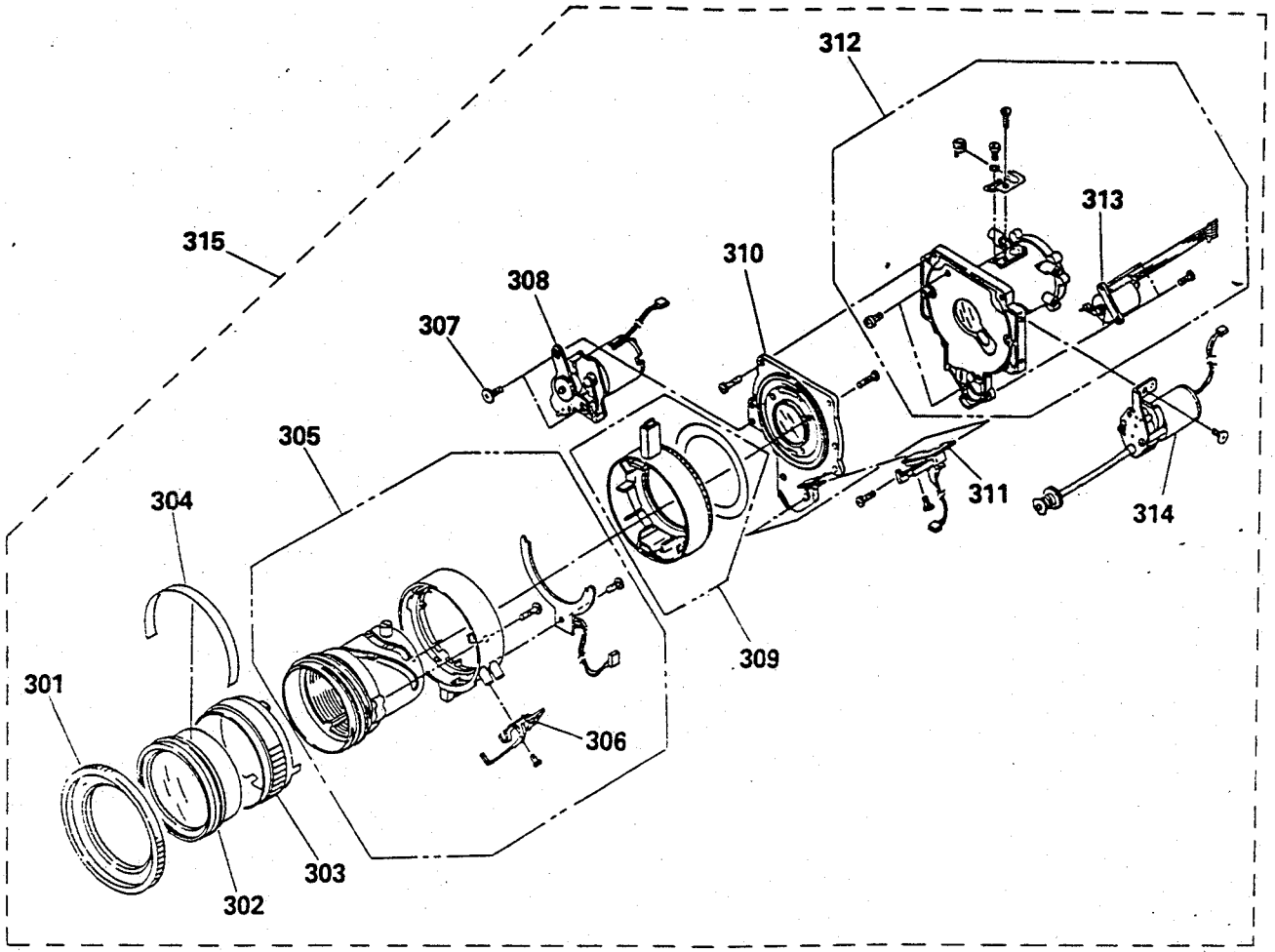
Lfd. Nr. Item no.	Bestell-Nr. Part no.	Lfd. Nr. Item no.	Bestell-Nr. Part no.
201	8 619 511 356	217	8 619 511 119
202	8 619 511 357	218	8 619 511 120
203	8 619 511 634	219	8 619 511 608
204	8 619 511 113	220	8 619 511 121
205	8 619 531 526	221	8 619 531 527
206	8 619 511 304	222	8 619 511 401
207	8 619 511 305	223	8 619 511 609
208	8 619 511 306	224	8 619 531 528
209	8 619 511 307	225	8 619 511 124
210	8 619 511 606	226	8 619 521 901 (FP-90)
211	8 619 511 115	227	8 619 521 900 (FP-89)
212	8 619 511 607	228	8 619 511 402
213	8 619 511 308	229	8 619 511 125
214	8 619 511 116	230	8 619 511 403
215	8 619 511 117	231	8 619 511 901
216	8 619 511 118	232	8 619 511 126

CR-8110 Explosionszeichnung (7) Chassisteile 3
CR-8110 Exploded View (7) MD Block Assembly 3



Lfd. Nr. Item no.	Bestell-Nr. Part no.	Lfd. Nr. Item no.	Bestell-Nr. Part no.
251	8 619 581 026	271	8 619 511 401
252	8 619 511 358	272	8 619 511 612
254	8 619 511 127	273	8 619 511 405
255	8 619 531 529	274	8 619 511 132
256	8 619 511 635	275	8 619 511 316
258	8 619 511 359	276	8 619 511 133
259	8 619 511 360	277	8 619 511 134
260	8 619 511 403	278	8 619 511 317
261	8 619 511 129	279	8 619 511 914
262	8 619 511 130	280	8 619 511 318
263	8 619 511 131	281	8 619 511 915
264	8 619 511 611	283	8 619 511 136
265	8 619 511 311	284	8 619 511 613
266	8 619 511 361	285	8 619 511 137
267	8 619 511 362	286	8 619 511 363
268	8 619 511 402	288	8 619 531 530
269	8 619 511 365	289	8 619 531 531
270	8 619 511 366	290	8 619 511 364

CR-8110 Explosionszeichnung (8) Optikteile
CR-8110 Exploded View (8) Lens Block



Lfd. Nr. Item no.	Bestell-Nr. Part no.
301	8 619 511 422
302	8 619 511 716
303	8 619 511 423
304	8 619 511 916
305	8 619 581 027
306	8 619 531 532
307	8 619 511 535
308	8 619 521 407
309	8 619 511 424
310	8 619 521 411
311	8 619 521 219
312	8 619 521 412
313	8 619 521 408
314	8 619 521 409
315	8 619 511 714

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
Wichtige mech. Bauteile CR-8110 **Important mechanical parts CR-8110**		
1	Kopftrommel kompl. Drum assembly	8 619 521 410
2	Kopfscheibe Upper rotary assembly	8 619 511 400
3	Capstanmotor Capstan motor	8 619 521 400
4	Einfädelmotor Threading motor	8 619 521 401
5	Feuchtesensor (DEW) DEW sensor	8 619 521 500
9	Netzadapter PC-80, (80 A) AC power adaptor PC-80, (80 A)	8 627 105 424
10	HF-Konverter RF-80 RFU Adaptor RF-80	8 619 591 831
11	Schulterriemen Shoulder strap	8 619 591 833
12	Sonnenblende Sunshade	8 619 511 421
13	Objektivkappe Lens cap	8 619 511 912
14	IR-Fernbedienung CRC-77 IR remote controller CRC-77	8 619 591 837

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
MA-107P Platine **MA-107P Board**		
IC 451	LA 7293 M-TE-L	8 925 900 527
J 451	MIC	8 619 521 652
J 452	DC-OUT	8 619 521 653
Q 451	2 SC 1623	8 945 705 933
S 451	REC START/STOP	8 619 521 220
RC-46P Platine **RC-46P Board**		
J 951	REMOTE	8 619 521 692
J 952	MIC	8 619 521 652
S 951	STAND BY	8 619 521 221
S 952	START/STOP	8 619 521 222
VF-14P Platine (Sucher Typ A) **VF-14P Board (EVF Type A)**		
1	LED-Halter LED holder	8 619 531 533
W 901	Bildröhrenfassung Picture tube socket	8 619 521 649
C 912	4,7 nF 50 V	8 952 299 000
C 913	4,7 nF 50 V	8 952 299 000
C 914	1,5 nF 50 V	8 952 299 001
C 919	1 nF 500 V	8 942 899 279
D 903	MA 152 WA	8 925 405 500
IC 901	AN 2512 S	8 925 900 528

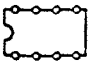
Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
L 903		8 619 531 030
Q 902	2 SC 1623	8 945 705 933
Q 903	2 SA 1163 G	8 925 705 164
Q 904	2 SC 1623	8 945 705 933
Q 905	2 SD 1615 A-GP	8 925 705 165
RV 901	47 kΩ	8 941 599 667
RV 902	470 Ω	8 921 500 200
RV 904	1 M Ω	8 921 500 201
T 901		8 619 531 203
TH 901		8 940 599 683

LD-13P Platine (Sucher Typ A)
LD-13P Board (EVF Type A)

D 901	GL1 HD 51	8 945 406 165
D 902	TLR 124	8 945 406 164

VF-22P Platine (Sucher Typ B)
VF-22P Board (EVF Type B)

1	LED-Halter LED holder	8 619 531 533
W 901	Bildröhrenfassung Picture tube socket	8 619 521 658
C 905	1 nF 50 V	8 952 299 002
C 907	4,7 nF 50 V	8 952 299 000
C 908	3,3 nF 50 V	8 952 299 004
C 911	68 µF 3,1 V	8 943 499 278
CN 901	2 pol.	8 619 521 655
CN 902	2 pol.	8 619 521 647
CN 904	2 pol.	8 619 521 656
CP 901	4 pol.	8 619 521 657

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
CRT 901		8 619 521 658
D 903	MA 152 WA	8 925 405 500
		
IC 901	AN 2512 S	8 925 900 528
L 903		8 619 531 020
Q 903	2SD 1615 A-GP	8 925 705 165
Q 904	2SA 1163 G	8 925 705 164
RV 901	4,7 MΩ	8 921 500 202
T 901		8 619 531 204
TH 901		8 940 599 683

LD-17P Platine (Sucher Typ B)
LD-17P Board (EVF Type B)

D 901	GL1 HD 51	8 945 406 165
D 902	TLR 124	8 945 406 164

CV-9 Platine
CV-9 Platine

CN 501	22 pol.	8 619 521 663
CN 502	22 pol.	8 619 521 663
CN 601	15 pol.	8 619 521 664
CN 801	14 pol.	8 619 521 615
CN 802	23 pol.	8 619 521 665

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
CT 601	30 pF	8 943 995 054
CV 501	30 pF	8 943 995 054
CV 502	30 pF	8 943 995 054
D 211	1 SS 226	8 945 406 159
D 213	MA 152 WK	8 945 406 158
D 216	MA 159 TX	8 925 405 503
D 217	MA 159 TX	8 925 405 503
D 218	MA 152 WK	8 945 406 158
D 219	MA 152 WK	8 945 406 158
D 401	1 SS 226	8 945 406 159
D 501	1 T 32-2	8 945 406 050
D 601	1 S 283 6	8 925 405 501
D 602	MA 152 WK	8 945 406 158
D 604	MA 152 WK	8 945 406 158
D 605	1 T 32-2	8 945 406 050
D 606	MA 152 WK	8 945 406 158
D 803	MA 152 WK	8 945 406 158
FL 201		8 619 531 018
FL 202		8 619 531 016
FL 203		8 619 531 000
FL 601		8 619 531 031
FL 602		8 619 531 032
FL 604		8 619 531 027
FL 606		8 619 531 033
FL 801		8 619 531 029
IC 201	CXA 1201 Q	8 945 902 723
IC 202	CXL 1502 M	8 925 900 551
IC 203	CXA 1200 BQ	8 945 903 106
IC 501	UPD 6145 G-601	8 925 900 531
IC 502	MB 673198 U	8 925 900 532
IC 601	MC 68HC05 N 4 - SC 406662	8 925 900 533
IC 602	BU 4066 BP	8 925 900 534
IC 603	UPC 324 G 2	8 945 901 937
IC 604	CXD 1159 Q	8 925 900 535
IC 605	CXA 1339 R	8 925 900 536
IC 606	CXA 1072 R	8 925 900 537
IC 608	MB 88341 PFV	8 925 900 538
IC 609	MB 88341 PFV	8 925 900 538
IC 610	S-8054 ALB-LM-S	8 945 902 714
IC 801	CXD 1204 R	8 925 900 539
IC 802	MC 68HC05 C 4 - SC 411533	8 925 900 540
IC 803	MSM 6219 GS-VK	8 925 900 541
IC 804	MB 88341 PFV	8 925 900 538
IC 805	MPC 1725 M	8 925 900 542
IC 806	LM 358 PS	8 945 903 002
IC 807	RC 3414 M	8 925 900 543
IC 808	LM 358 PS	8 945 903 002
IC 810	MM 1036 XF	8 925 900 544
J 201		8 619 521 651

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
Q 202	2 SC 1623	8 945 705 933
Q 203	2 SC 1623	8 945 705 933
Q 204	2 SB 798-DL	8 925 705 172
Q 206	DTC 144 EK	8 945 705 850
Q 207	DTC 144 EK	8 945 705 850
Q 208	DTC 144 EK	8 945 705 850
Q 209	2 SA 1162	8 925 705 155
Q 210	2 SB 798-DL	8 925 705 172
Q 211	DTC 144 EK	8 945 705 850
Q 212	DTC 144 EK	8 945 705 850
Q 213	2 SC 1623	8 945 705 933
Q 214	2 SC 1623	8 945 705 933
Q 215	2 SC 1623	8 945 705 933
Q 216	2 SC 1623	8 945 705 933
Q 217	2 SA 1162	8 925 705 155
Q 222	2 SB 798-DL	8 925 705 172
Q 223	DTC 144 EK	8 945 705 850
Q 224	2 SC 2223-F13	8 925 705 174
Q 225	2 SC 1623	8 945 705 933
Q 226	DTA 144 EK	8 925 705 325
Q 227	2 SC 3398	8 925 705 171
Q 228	2 SC 1623	8 945 705 933
Q 229	2 SA 1162	8 925 705 155
Q 230	2 SA 1226	8 925 705 336
Q 231	2 SC 2223-F13	8 925 705 174
Q 232	2 SC 2223-F13	8 925 705 174
Q 233	2 SA 1162	8 925 705 155
Q 235	2 SC 1623	8 945 705 933
Q 236	2 SC 1623	8 945 705 933
Q 241	DTA 144 EK	8 925 705 325
Q 242	DTC 144 EK	8 945 705 850
Q 243	2 SC 1623	8 945 705 933
Q 244	DTC 144 EK	8 945 705 850
Q 250	2 SC 1623	8 945 705 933
Q 251	2 SA 1162	8 925 705 155
Q 254	2 SC 1623	8 945 705 933
Q 401	XN 4601	8 945 705 713
Q 403	XN 1216	8 925 705 337
Q 405	2 SC 1623	8 945 705 933
Q 406	2 SC 1623	8 945 705 933
Q 407	2 SC 1623	8 945 705 933
Q 408	2 SA 1162	8 925 705 155
Q 409	2 SC 2223-F13	8 925 705 174
Q 410	2 SA 1162	8 925 705 155
Q 501	2 SC 1623	8 945 705 933
Q 502	2 SC 1623	8 945 705 933
Q 551	DTA 144 EK	8 925 705 325
Q 552	DTC 114 TK	8 945 901 013
Q 553	DTC 114 TK	8 945 901 013
Q 602	2 SC 1623	8 945 705 933
Q 603	2 SA 1162	8 925 705 155
Q 604	2 SC 3859	8 925 705 173
Q 605	DTC 144 EK	8 945 705 850
Q 606	DTC 144 EK	8 945 705 850
Q 607	2 SC 3859	8 925 705 173
Q 608	2 SC 1623	8 945 705 933
Q 609	2 SC 1623	8 945 705 933
Q 610	2 SA 1162	8 925 705 155
Q 611	2 SC 1623	8 945 705 933
Q 612	2 SA 1162	8 925 705 155
Q 614	2 SA 1162	8 925 705 155
Q 615	2 SC 1623	8 945 705 933
Q 616	2 SC 1623	8 945 705 933
Q 617	2 SC 1623	8 945 705 933
Q 618	2 SC 1623	8 945 705 933

Ersatzteilliste / Spare Parts List

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
Q 619	2 SC 1623	8 945 705 933
Q 620	2 SC 1623	8 945 705 933
Q 621	2 SC 3859	8 925 705 173
Q 622	2 SC 3859	8 925 705 173
Q 623	2 SC 3859	8 925 705 173
Q 624	2 SC 3859	8 925 705 173
Q 625	2 SA 1162	8 925 705 155
Q 626	2 SC 1623	8 945 705 933
Q 627	2 SA 1162	8 925 705 155
Q 628	2 SA 1162	8 925 705 155
Q 629	DTC 124 TK	8 945 705 956
Q 630	2 SA 1162	8 925 705 155
Q 631	2 SA 1162	8 925 705 155
Q 632	2 SC 1623	8 945 705 933
Q 633	2 SA 1162	8 925 705 155
Q 634	2 SC 1623	8 945 705 933
Q 635	2 SA 1162	8 925 705 155
Q 638	2 SA 1162	8 925 705 155
Q 639	2 SC 3859	8 925 705 173
Q 641	2 SC 1623	8 945 705 933
Q 642	2 SA 1162	8 925 705 155
Q 644	2 SA 1162	8 925 705 155
Q 645	2 SC 1623	8 945 705 933
Q 646	2 SA 1162	8 925 705 155
Q 647	2 SC 1623	8 945 705 933
Q 648	2 SA 1162	8 925 705 155
Q 802	2 SC 1623	8 945 705 933
Q 803	XN 6501	8 945 705 668
Q 804	XN 6501	8 945 705 668
Q 805	DTC 144 EK	8 945 705 850
Q 806	2 SC 1623	8 945 705 933
Q 807	2 SC 1623	8 945 705 933
Q 809	2 SC 3859	8 925 705 173
Q 810	2 SC 3859	8 925 705 173
Q 811	DTA 144 EK	8 925 705 325
Q 812	DTA 144 EK	8 925 705 325
Q 816	2 SC 1623	8 945 705 933
Q 817	2 SA 1162	8 925 705 155
Q 818	2 SC 1623	8 945 705 933
Q 819	2 SA 1175-HFE	8 945 706 119
Q 824	DTC 144 EK	8 945 705 850
Q 825	DTC 144 EK	8 945 705 850
Q 820	2 SC 1623	8 945 705 933
Q 822	2 SA 1162	8 925 705 155
Q 826	2 SA 1162	8 925 705 155
Q 827	2 SC 1623	8 945 705 933
Q 828	2 SA 1162	8 925 705 155
Q 830	2 SC 3859	8 925 705 173
RV 201	47 kΩ	8 941 599 667
RV 202	10 kΩ	8 941 599 668
RV 203	47 kΩ	8 941 599 667
RV 204	2,2 kΩ	8 941 599 665
RV 205	4,7 kΩ	8 941 599 663
RV 207	2,2-kΩ	8 941 599 665
RV 208	470 Ω	8 921 500 200
RV 401	2,2 kΩ	8 941 599 665
RV 402	1 kΩ	8 941 599 664
RV 403	2,2 kΩ	8 941 599 665
RV 552	100 kΩ	8 941 599 666
RV 801	220 kΩ	8 921 500 203
X 201	4,43 MHz	8 946 193 265
X 601	4 MHz	8 946 193 267
X 602	17,7 MHz	8 946 193 271
X 603	28 MHz	8 946 193 341

DT-79D Platine / DT-79D Board — 8 619 521 975

MX-7 Platine / MX-7 Board — 8 619 521 974

PS-288P Platine / PS-288P Board

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
W 901	Folienkabel Flexible cable	8 619 521 669
W 902	Folienkabel Flexible cable	8 619 521 669
D 935	RD 12 M-B 2	8 945 421 446
D 936	1 SS 226	8 945 406 159
D 937	1 SS 226	8 945 406 159
D 938	D 1 FS 4	8 945 406 166
D 939	1 SS 193-TE 85 L	8 945 406 170
D 940	1 SS 193-TE 85 L	8 945 406 170
D 941	1 SS 250	8 945 405 818
D 942	1 SS 193-TE 85 L	8 945 406 170
D 943	1 SS 193-TE 85 L	8 945 406 170
IC 935	TL 145 IACNS	8 925 900 546
J 901		8 619 521 668
PS 901	1600 mA	8 619 581 004
PS 902	1600 mA	8 619 581 004
PS 903	1600 mA	8 619 581 004
Q 935	DTC 124 EK	8 945 705 852
Q 936	DTA 124 EK	8 945 705 849
Q 937	DTA 124 EK	8 945 705 849
Q 938	DTC 124 EK	8 945 705 852
Q 939	DTA 124 EK	8 945 705 849
Q 940	2 SC 1623-L 7	8 925 705 329
Q 941	2 SB 1385	8 925 705 332
Q 942	2 SB 1121	8 945 705 935
Q 943	DTA 124 EK	8 945 705 849
Q 944	DTC 124 EK	8 945 705 852
Q 945	2 SA 1162	8 925 705 155
Q 946	2 SA 1162	8 925 705 155

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
Q 947	2 SK 739	8 925 705 333
Q 952	DTA 114 EK	8 945 706 000
Q 953	DTC 144 EK	8 945 705 850
RV 936	1 kΩ	8 941 599 664
RV 937	470 Ω	8 921 500 200
RV 938	4,7 kΩ	8 941 599 663
T 936		8 619 531 205

CO-2P Platine
CO-2P Board

W 501	Folienkabel Flexible cable	8 619 591 723
W 502	Folienkabel Flexible cable	8 619 591 723
CN 101	13 pol.	8 619 521 637
CN 501	13 pol.	8 619 521 637
CN 502	15 pol.	8 619 521 666
CN 507	12 pol.	8 619 521 667
D 401	RD6,2 M-B3	8 925 421 550
D 504	1 S 2837	8 945 406 043
D 505	1 S 2837	8 945 406 043
D 621	SB 05-05 CP	8 945 406 040
D 622	SB 05-05 CP	8 945 406 040
D 623	1 S 2836	8 925 405 501
FL 401		8 619 531 001
IC 101	CXA 1202 R	8 945 902 721
IC 401	SBX 1505-21	8 925 900 549
IC 501	CXP 80116-624 Q	8 925 900 550
IC 502	S-81350 AG	8 945 902 715
IC 503	S-8054 ALRS-LN	8 945 903 135
IC 504	LB 1631 M	8 945 902 717
IC 505	UPC 358 G 2	8 945 900 886
IC 506	CX 20115 A	8 945 902 719
IC 507	CX 20114	8 945 902 718
IC 508	CXA 1127 M	8 945 902 720
IC 509	CXA 1204 Q	8 945 902 716
IC 510	UPC 324 G 2	8 945 901 937
IC 621	MB 3775 PF	8 945 902 709
PS 502	400 mA	8 619 581 003
PS 503	800 mA	8 619 581 001

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
Q 102	2 SC 1623	8 945 705 933
Q 108	DTA 144 EK	8 925 705 325
Q 109	2 SC 1623	8 945 705 933
Q 110	2 SC 1623	8 945 705 933
Q 112	2 SA 1175-HFE	8 945 706 119
Q 113	2 SA 1162	8 925 705 155
Q 114	DTC 144 EK	8 945 705 850
Q 115	DTA 144 EK	8 925 705 325
Q 116	DTA 144 EK	8 925 705 325
Q 401	2 SC 1623	8 945 705 933
Q 402	2 SC 1623	8 945 705 933
Q 403	DTA 144 EK	8 925 705 325
Q 404	DTC 144 EK	8 945 705 850
Q 405	DTA 144 EK	8 925 705 325
Q 406	2 SC 1623	8 945 705 933
Q 503	2 SC 3898	8 925 705 166
Q 504	2 SC 3898	8 925 705 166
Q 506	2 SA 1162	8 925 705 155
Q 507	2 SA 1162	8 925 705 155
Q 515	2 SA 1162	8 925 705 155
Q 516	2 SC 1623	8 945 705 933
Q 517	2 SC 1623	8 945 705 933
Q 518	2 SC 1623	8 945 705 933
Q 519	2 SC 1623	8 945 705 933
Q 520	2 SB 1040 A-5	8 925 705 328
Q 521	2 SC 1623	8 945 705 933
Q 522	2 SA 1162	8 925 705 155
Q 524	2 SC 1623	8 945 705 933
Q 525	2 SC 1623	8 945 705 933
Q 526	2 SA 1162	8 925 705 155
Q 527	2 SC 1623	8 945 705 933
Q 528	2 SA 1162	8 925 705 155
Q 529	2 SC 1623	8 945 705 933
Q 530	2 SA 1162	8 925 705 155
Q 531	2 SA 1162	8 925 705 155
Q 532	2 SA 1162	8 925 705 155
Q 533	2 SA 1162	8 925 705 155
Q 534	DTC 144 EK	8 945 705 850
Q 535	DTC 144 EK	8 945 705 850
Q 536	2 SC 3898	8 925 705 166
Q 537	2 SA 1162	8 925 705 155
Q 538	2 SC 1623	8 945 705 933
Q 539	2 SC 1623	8 945 705 933
Q 540	2 SC 1623	8 945 705 933
Q 621	2 SC 3396	8 925 705 330
Q 622	2 SC 1623-L 7	8 925 705 329
Q 623	2 SB 1121	8 945 705 935
Q 624	DTC 144 EK	8 945 705 850
Q 625	DTA 114 EK	8 945 706 000
Q 626	2 SC 1623-L 7	8 925 705 329
Q 627	2 SB 1121	8 945 705 935
Q 628	2 SC 1623	8 945 705 933
Q 629	2 SC 1623	8 945 705 933
RV 101	47 kΩ	8 941 599 667
RV 102	47 kΩ	8 941 599 667
RV 501	100 kΩ	8 941 599 666
RV 551	47 kΩ	8 921 500 204
RV 621	4,7 kΩ	8 941 599 663
RV 621	4,7 kΩ	8 941 599 663

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
X 501	16 MHz	8 946 193 337
X 502	5,9 MHz	8 946 193 338
	VK-20P Platine VK-20P Board	
W 507	Folienkabel Flexible cable	8 619 591 752
D 501	MA 152 WK	8 945 406 158
D 502	1 S 2836	8 925 405 501
D 503	1 S 2836	8 925 405 501
D 504	1 SS 196	8 945 406 171
D 505	MA 152 WK	8 945 406 158
Q 501	2 SC 3898	8 925 705 166
Q 502	2 SC 3898	8 925 705 166
S 501		8 619 521 223
S 502		8 619 521 224
S 503		8 619 521 224
S 504		8 619 521 224
S 505		8 619 521 224
S 506		8 619 521 224
S 507		8 619 521 209
S 508		8 619 521 208
S 509		8 619 521 224
S 510		8 619 521 221
	KS-13P Platine KS-13P Board	**8 619 591 013**
W 502	Folienkabel Flexible cable	8 619 521 660
	PJ-20 Platine PJ-20 Board	
D 101	MA 152 WK	8 945 406 158
D 102	1 SS 226	8 945 406 159
D 103	MA 152 WK	8 945 406 158
D 104	MA 152 WK	8 945 406 158
DL 101		8 619 581 303

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
FL 101		8 619 531 017
IC 101	CXA 1203 N	8 945 902 724
Q 101	DTC 144 EK	8 945 705 850
Q 102	DTA 144 EK	8 925 705 325
Q 103	2 SC 1623	8 945 705 933
Q 104	2 SC 1623	8 945 705 933
Q 105	2 SC 1623	8 945 705 933
Q 106	2 SC 1623	8 945 705 933
Q 107	2 SC 1623	8 945 705 933
Q 108	2 SC 1623	8 945 705 933
Q 109	2 SC 1623	8 945 705 933
Q 110	2 SC 1623	8 945 705 933
Q 111	DTA 144 EK	8 925 705 325
Q 112	DTA 144 WK	8 925 705 334
Q 113	DTC 144 EK	8 945 705 850
RV 102	4,7 kΩ	8 941 599 663
RV 103	10 kΩ	8 941 599 668
RV 104	4,7 kΩ	8 941 599 663
	DK-16P Platine DK-16P Board	
W 652	Folienkabel Flexible cable	8 619 521 661
D 691	1 SS 193-TE 85 L	8 945 406 170
D 692	MA 152 WK	8 945 406 158
S 691		8 619 521 224
S 692		8 619 521 224
S 693		8 619 521 224
S 694		8 619 521 224
	CK-52P Platine CK-52P Board	
	Halter Holder	8 619 531 534
CV 651	30 pF	8 923 910 525

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
D 651	SB 01-05 CP	8 945 406 161
D 652	1 SS 193	8 945 406 039
D 653	MA 152 WK	8 945 406 158
D 654	MA 152 WK	8 945 406 158
D 657	MA 152 WK	8 945 406 158
D 658	1 SS 193	8 945 406 039
D 660	GP 2 S 09-B	8 925 405 502
IC 651	UPD 7508 BGB-SGX 981G	8 925 900 796
Q 651	DTC 144 WK	8 925 705 327
Q 652	2 SA 1162	8 925 705 155
Q 653	DTC 144 WK	8 925 705 327
Q 654	2 SK 209-G	8 945 705 958
Q 655	2 SA 1162	8 925 705 155
Q 656	2 SA 1162	8 925 705 155
Q 657	2 SA 1162	8 925 705 155
Q 658	2 SC 1623	8 945 705 933
Q 659	2 SC 1623	8 945 705 933
Q 660	2 SA 1162	8 925 705 155
Q 661	2 SA 1162	8 925 705 155
Q 662	DTC 114 TK	8 945 705 623
Q 663	DTC 114 TK	8 945 705 623
Q 664	2 SA 1162	8 925 705 155
Q 665	DTC 144 EK	8 945 705 850
RV 651	100 kΩ	8 941 599 666
S 652		8 619 521 224
S 653		8 619 521 224
S 654		8 619 521 224
S 655		8 619 521 224
S 658		8 619 521 224
S 659		8 619 521 224
X 651	32,768 kHz	8 946 193 268

LL-10 Platine
LL-10 Board 8 619 521 979

W 802	Folienkabel Flexible cable	8 619 521 659

CD-69P Platine
CD-69P Board

W 601	Folienkabel Flexible cable	8 619 591 721
W 603	Folienkabel Flexible cable	8 619 591 722
CN 605	8 pol.	8 619 521 662
D 601	MA 152 WK	8 945 406 158
D 602	1 S 2836	8 925 405 501
D 603	MA 152 WK	8 945 406 158
D 604	MA 152 WK	8 945 406 158
IC 601	ICX 045 AK-1 (CCD)	8 619 581 506
Q 601	2 SK 300-4	8 925 705 335
Q 602	2 SC 1623	8 945 705 933
Q 603	2 SC 1623	8 945 705 933
Q 604	2 SC 1623	8 945 705 933
Q 605	2 SC 1623	8 945 705 933
Q 606	2 SA 1162	8 925 705 155
Q 607	2 SB 804-AW	8 925 705 169
Q 608	2 SD 1005-BV	8 925 705 170
Q 609	2 SA 1162	8 925 705 155
Q 610	2 SC 1623	8 945 705 933

CC-65P Platine
CC-65P Board

W 501	Folienkabel Flexible cable	8 619 591 725
CN 1	13 pol.	8 619 521 637
CN 2	11 pol.	8 619 521 638
D 1	MA 152 WK	8 945 406 158
D 2	MA 152 WK	8 945 406 158
D 3	MA 152 WK	8 945 406 158
IC 1	UPC 393 G 2	8 945 902 120

Ersatzteilliste / Spare Parts List

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
Q 2	DTC 144 TK	8 945 705 851
Q 4	DTC 144 TK	8 945 705 851
Q 5	DTC 144 TK	8 945 705 851
Q 6	DTC 114 EK	8 945 705 698
	FP-90 Flexible Platine **FP-90 Flexible board**	**8 619 521 901**
1	LED-Halter LED Holder	8 619 511 139
2	Sensorhalter Sensor holder	8 619 511 138
D 302	GL 452 S	8 945 406 038
D 303	TLP 907-0	8 945 406 037
Q 302	EE TP-109	8 945 705 932
S 302		8 619 521 202
	FP-89 Flexible Platine **FP-89 Flexible Board**	**8 619 521 900**
1	Sensorhalter Sensor holder	8 619 511 138
2	Schiebeschalter (Encoder) Slide switch	8 619 521 225
3	Tastschalter (Cassette down) Non-locking switch	8 619 521 201
D 301	TLP 907-0	8 945 406 037
Q 301	EE TP-109	8 945 705 932
	RM-51P Platine **RM-51P Board**	
D 101	DAP 202K	8 925 405 564

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
IC 101	CXP 80116-834Q	8 925 900 795
IC 102	S-8054 ALR-LN-S	8 925 900 625
IC 103	IS 1U60 (IR-Sensor)	8 945 903 315
Q 101	DTC 144EK	8 945 705 850
Q 102	DTC 144EK	8 945 705 850
Q 103	DTC 144EK	8 945 705 850
S 101		8 619 521 221
X 101	16 MHz	8 946 193 392

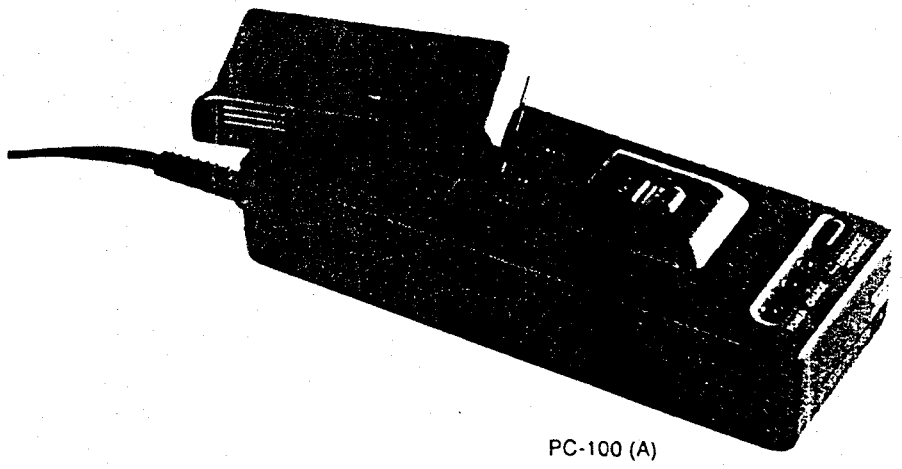
Hinweis:
Handelsübliche Kondensatoren und Widerstände sind in der Ersatzteilliste nicht aufgeführt. Wir bitten Sie, diese Teile im Fachhandel zu beziehen.

Note:
Capacitors and resistors usual in trade are not mentioned in the spare parts list. Kindly buy these parts from the specialized trade.

BLAUPUNKT
Bosch Telecom

Netzadapter / Power Adaptor
PC-100 (A) 8 627 105 423

Kundendienstschrift • Service Manual



PC-100 (A)

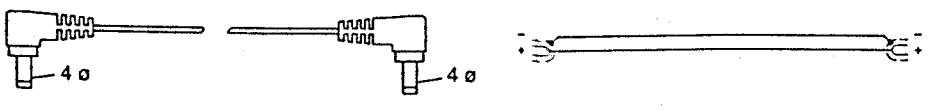
Technische Daten

Netzanschluß:	100-240 V, 50/60 Hz
Leistungsaufnahme:	ca. 25 W
Ausgangsspannung:	6 V/1,8 A (CCR-550) 6 V/1,3 A (Aufladen des Akkus)
Masse:	PC-100: ca. 450 g PC-100 A: ca. 390 g
Abmessungen:	70 (B) x 58 (H) x 178 (T) mm
Anschlußkabel:	

Specifications

Power Source:	100-240 V AC, 50/60 Hz
Power Consumption:	approx. 25 W
DC OUT:	6 V/1.8 A (CCR-550) 6 V/1.3 A (Battery pack charging)
Weight:	PC-100: approx. 450 g PC-100A: approx. 390 g
Dimensions:	70 (W) x 58 (H) x 178 (D) mm
Connection Cable:	

1 Stück Stromversorgungskabel / 1 pc. Power Supply Cable



Dieser Netzadapter PC-100 (A) versorgt den Camcorder CR-4400/4700 und dient außerdem zum Laden der entsprechenden Akkus.

This power adaptor PC-100 (A) supplies the Camcorder CR-4400/4700 and also serves for charging the corresponding battery pack.

Notizen / Memo

Demontageanweisung

Tabelle zur Demontage

Diese Tabelle zeigt die Reihenfolge, in der Gehäuseteile und Leiterplatten demontiert werden müssen, um diejenigen Teile zu erreichen, bei denen Service notwendig ist.
Beim Zusammenbau sind die Schritte in umgekehrter Reihenfolge durchzuführen.

Hinweise:

Das Gerät ist sehr kompakt gebaut und hat teilweise Verriegelungsklemmen anstelle von Befestigungsschrauben. Arbeiten Sie daher beim Service äußerst vorsichtig, damit diese Verriegelungsklemmen nicht abbrechen.

Dismounting instructions

Disassembly table

This table indicates disassembly steps of the cabinet parts and the P Boards in order to find the items neccessary for servicing.
When reassembling, perform the steps in the reverse order.

Note:

This unit is compact and has partly been fitted with locking portio instead of fixing screws. When removing the cabinet, work with care as not to break the locking portions.

Demontageschritte Disassembly Steps	Entfernen, entriegeln, abziehen Remove, unlock, disconnect	Bemerkungen Remarks	Fig Fig
Gehäuseoberteil Top case	3 Schrauben (S 1), 2 Verriegelungen (L 1) 3 Screws (S 1), 2 Locking tabs (L 1)		1 + 1 +
Hauptplatine Main C.B.A.	5 Lötstellen 5 Soldered portions		2 2
Schalter-Platine Switch C.B.A.	2 Schrauben (S 2) 2 Screws (S 2)		3 3

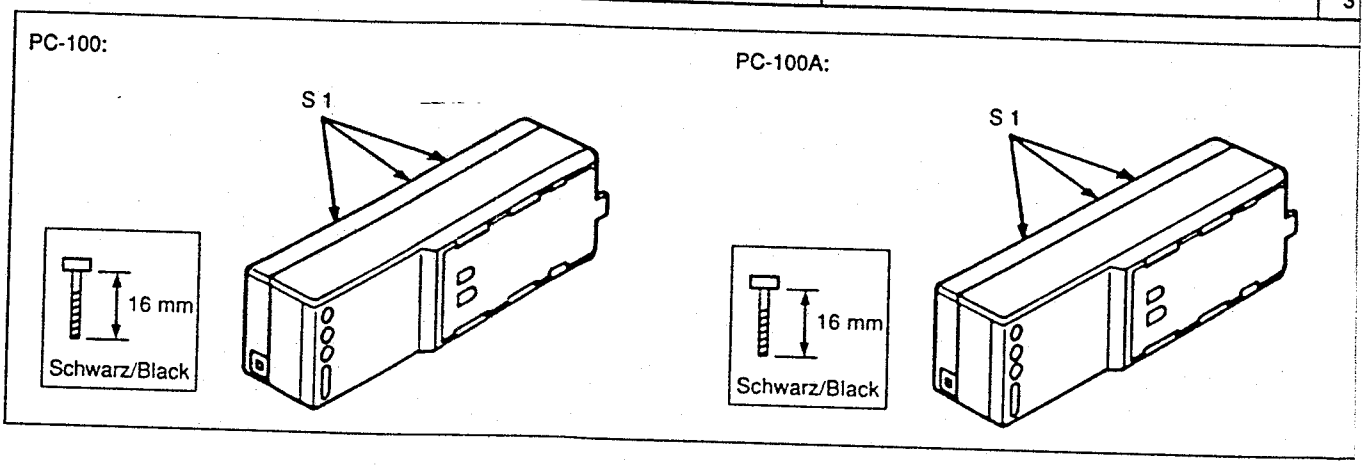


Fig. 1

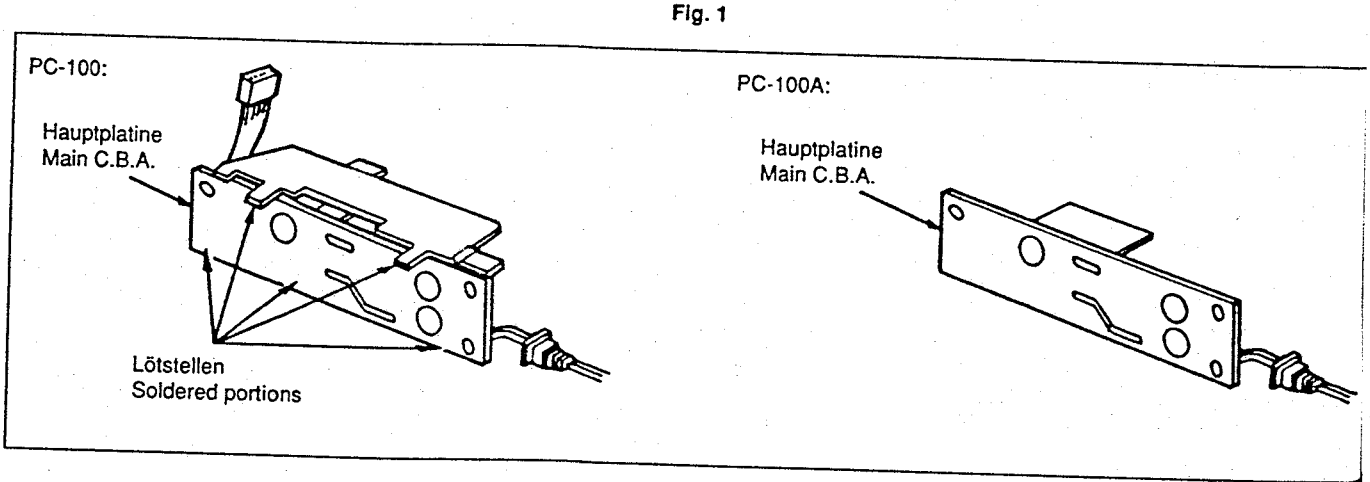


Fig. 2

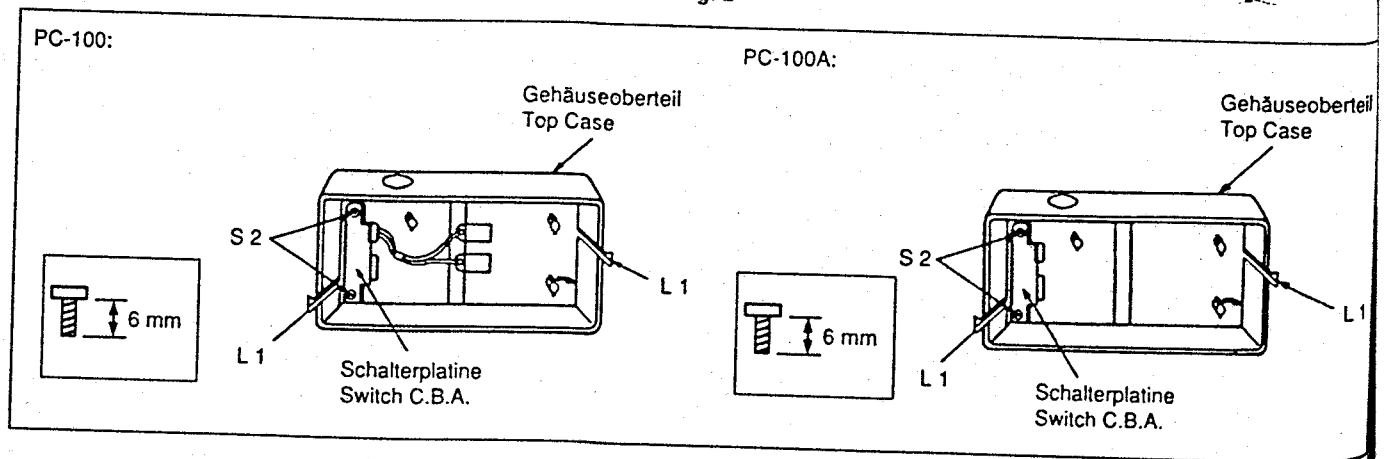
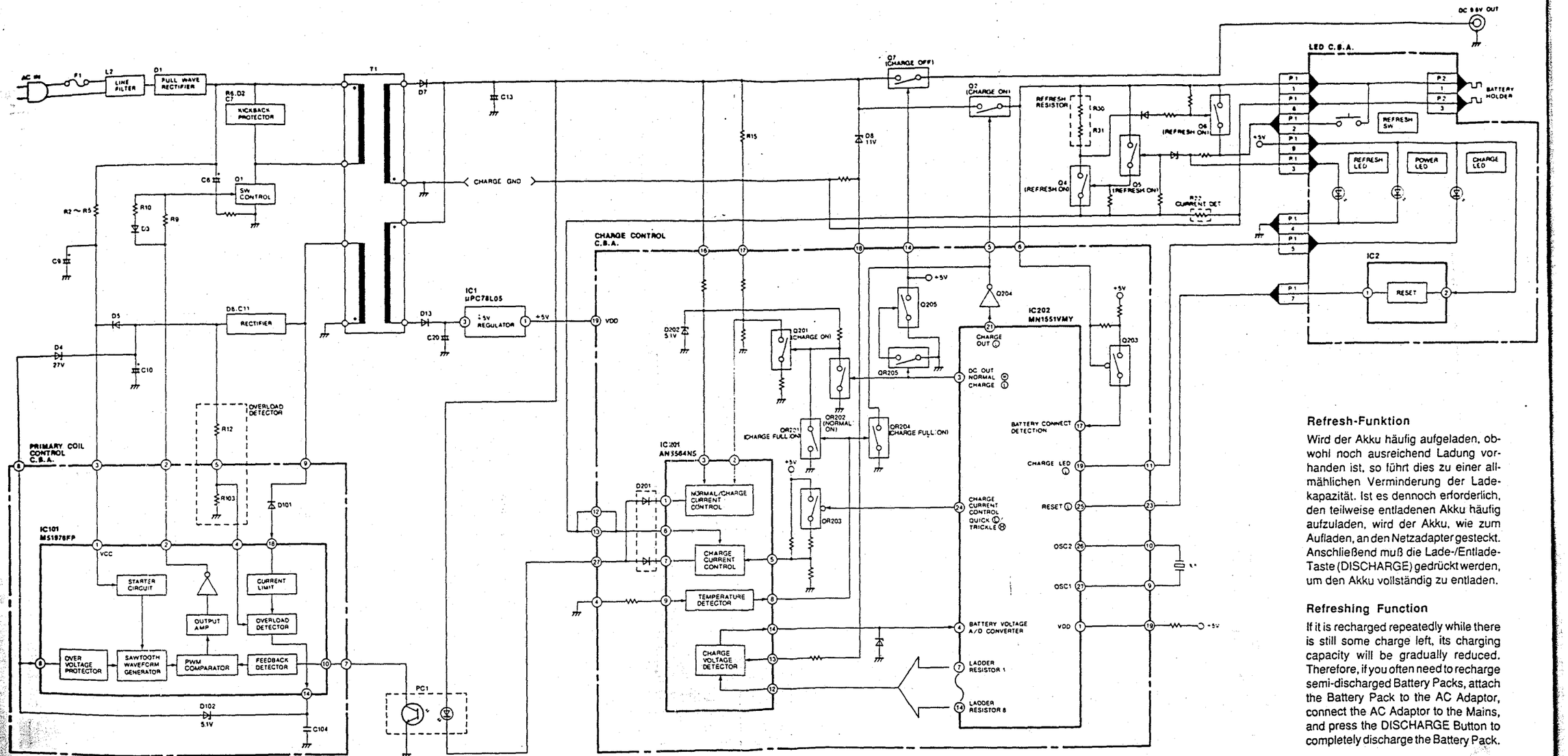


Fig. 1

Blockschaltbild des Netzteiles PC-100
AC Adaptor PC-100 Block Diagram



Refresh-Funktion

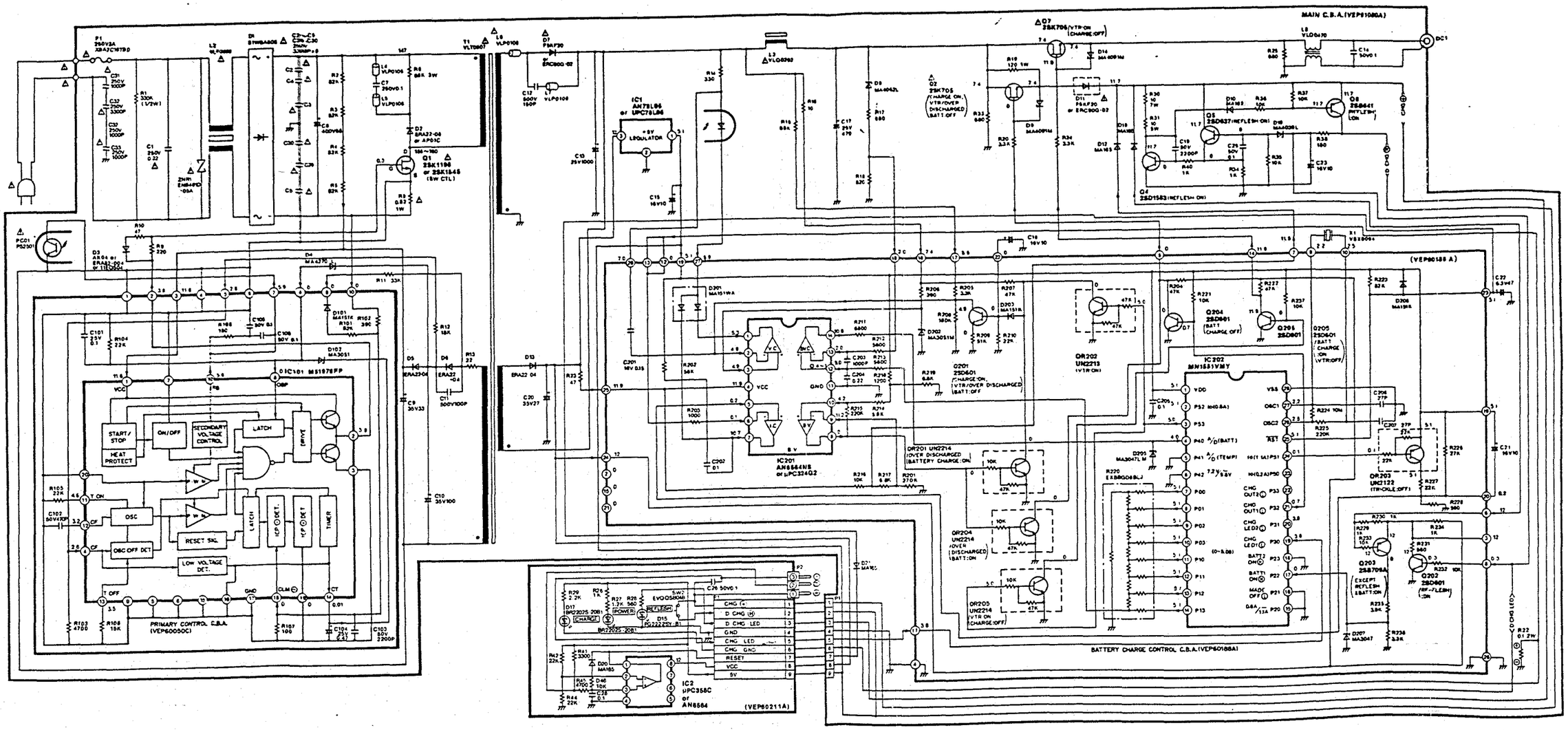
Wird der Akku häufig aufgeladen, obwohl noch ausreichend Ladung vorhanden ist, so führt dies zu einer allmählichen Verminderung der Ladekapazität. Ist es dennoch erforderlich, den teilweise entladenen Akku häufig aufzuladen, wird der Akku, wie zum Aufladen, an den Netzadapter gesteckt. Anschließend muß die Lade-/Entlade-Taste (DISCHARGE) gedrückt werden, um den Akku vollständig zu entladen.

Refreshing Function

If it is recharged repeatedly while there is still some charge left, its charging capacity will be gradually reduced. Therefore, if you often need to recharge semi-discharged Battery Packs, attach the Battery Pack to the AC Adaptor, connect the AC Adaptor to the Mains, and press the DISCHARGE Button to completely discharge the Battery Pack.

Gehäuseoberteil
Top Case

Schaltbild des Netzteiles PC-100
AC Adaptor PC-100 Schematic Diagram



Die Spannungen im Netzadapter werden wie folgt gemessen:
Primär: C10 minus-Anschluß
Sekundär: Netzadapter- Chassis

When measure the voltage of the ac adaptor, connect the probe (earth side) of measuring equipment as follows:
Primary side: C10 minus terminal
Secondary side: ac adaptor chassis earth

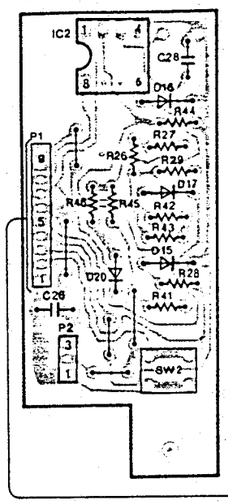
Die Gleichspannungen der Primärseite werden bei einer Eingangsspannung von 220 V AC gemessen. Es ist kein Akku zum Laden angeschlossen.

The dc voltage indicated in primary side is measured when input ac 220 V is applied. The measurement mode of dc voltage on this diagram is noload.

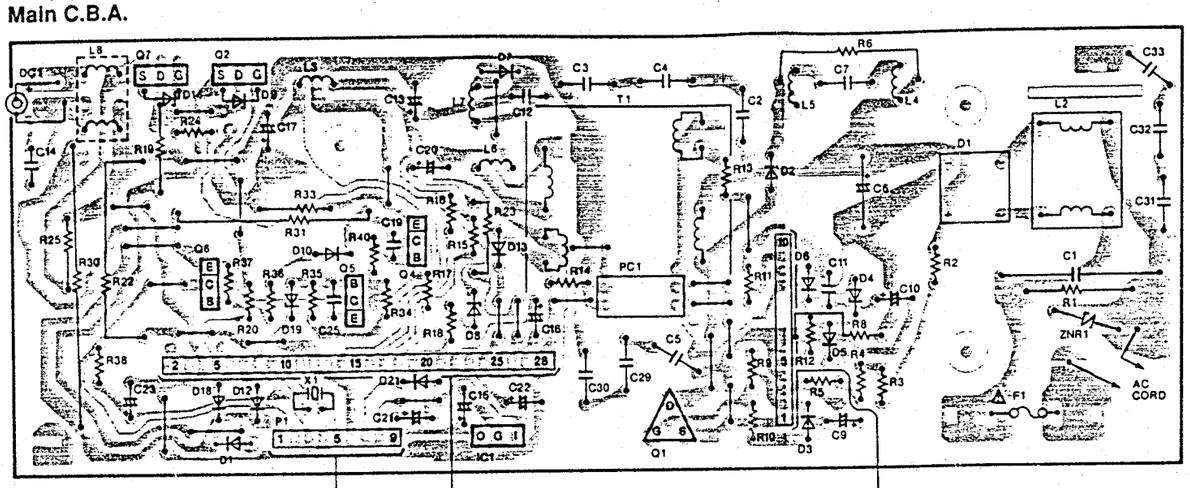
⚠ Sicherheitsbauelement (muß durch Originalteil ersetzt werden)
Security component (must be replaced by original parts)

Platinen des Netztelles PC-100
AC Adaptor PC-100 C.B.A's

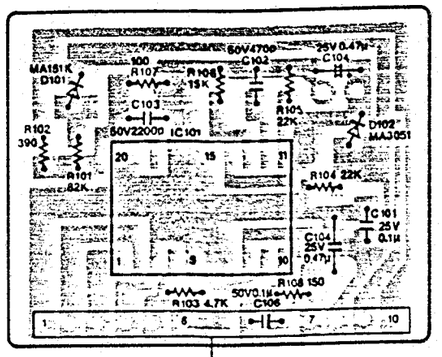
Schalterplatine
SW C.B.A.



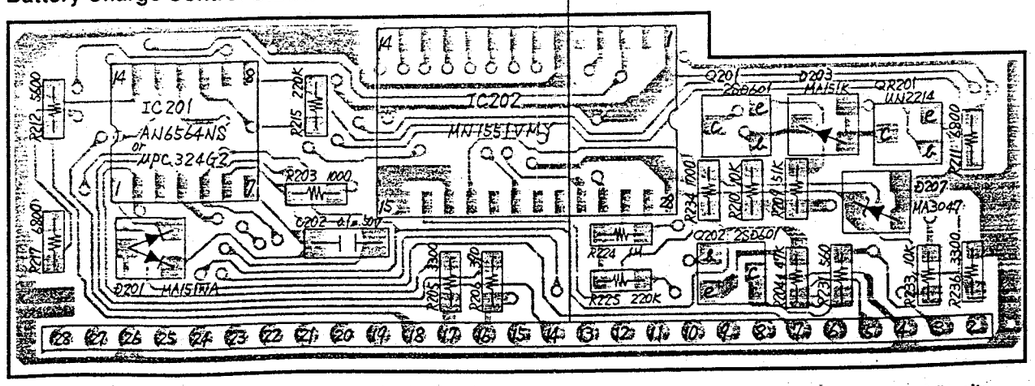
Hauptplatine
Main C.B.A.



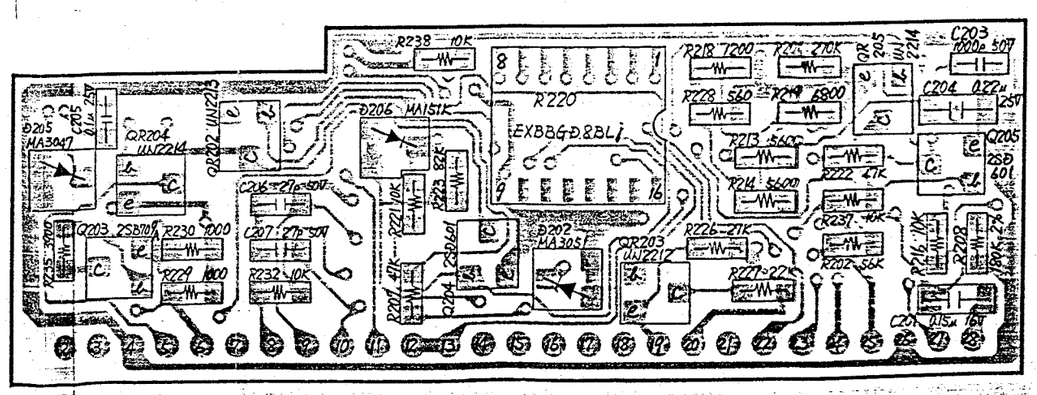
Primärkreis-Kontrollplatine
Primary Control C.B.A.



Ladekontroll-Platine
Battery Charge Control C.B.A.



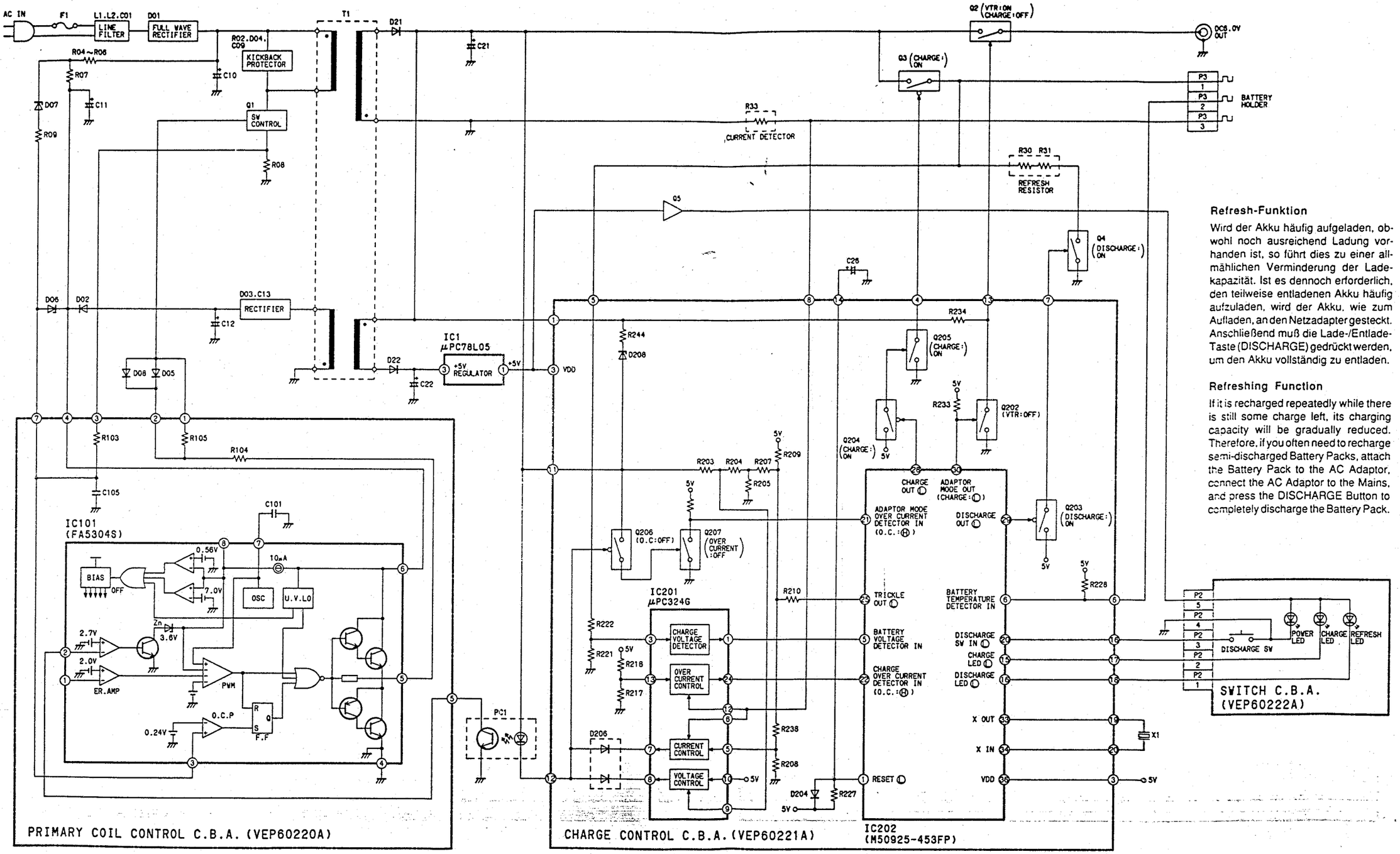
Lötseite
Foil side



Bestückungsseite
Component side

3-7 3-8

Blockschaltbild des Netzteiles PC-100A
AC Adaptor PC-100A Block Diagram



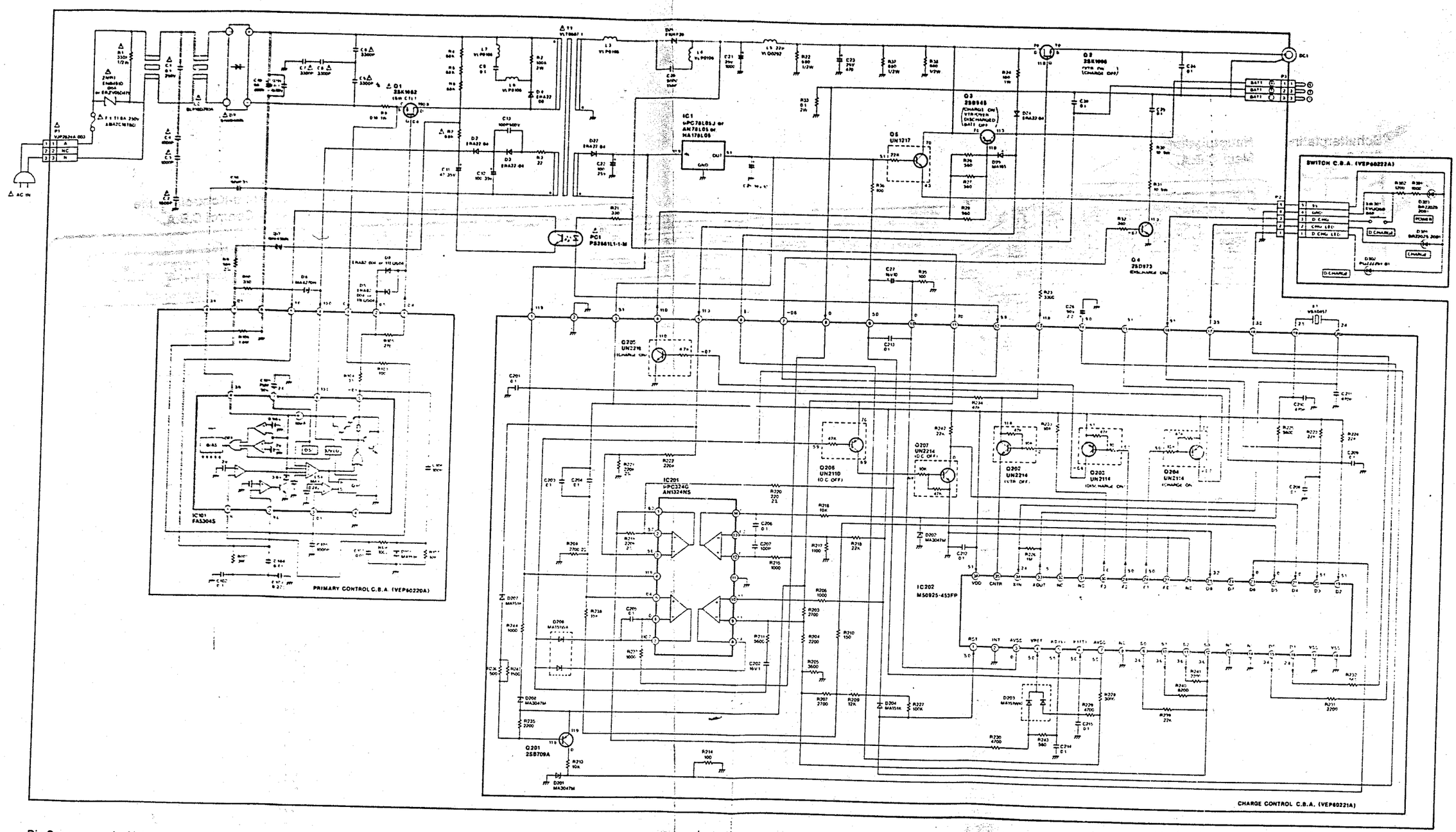
Refresh-Funktion

Wird der Akku häufig aufgeladen, obwohl noch ausreichend Ladung vorhanden ist, so führt dies zu einer allmählichen Verminderung der Ladekapazität. Ist es dennoch erforderlich, den teilweise entladenen Akku häufig aufzuladen, wird der Akku, wie zum Aufladen, an den Netzadapter gesteckt. Anschließend muß die Lade-/Entlade-Taste (DISCHARGE) gedrückt werden, um den Akku vollständig zu entladen.

Refreshing Function

If it is recharged repeatedly while there is still some charge left, its charging capacity will be gradually reduced. Therefore, if you often need to recharge semi-discharged Battery Packs, attach the Battery Pack to the AC Adaptor, connect the AC Adaptor to the Mains, and press the DISCHARGE Button to completely discharge the Battery Pack.

Schaltbild des Netzteiles PC-100A
AC Adaptor PC-100A Schematic Diagram



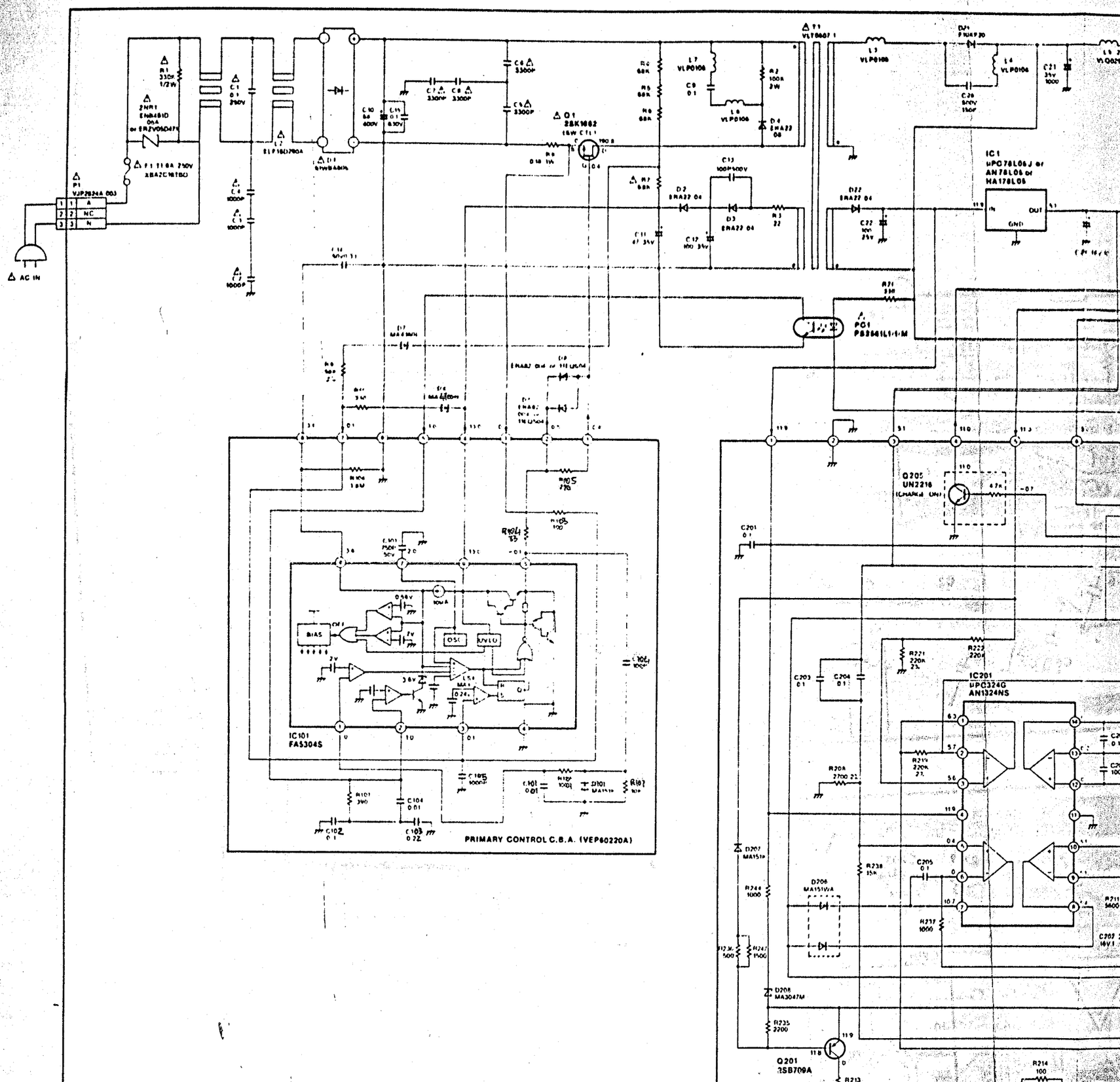
Die Spannungen im Netzadapter werden wie folgt gemessen:
Primär: C10 minus-Anschluß
Sekundär: Netzadapter- Chassis

When measure the voltage of the ac adaptor, connect the probe (earth side) of measuring equipment as follows:
Primary side: C10 minus terminal
Secondary side: ac adaptor chassis earth

Die Gleichspannungen der Primärseite werden bei einer Eingangsspannung von 220 V AC gemessen. Es ist kein Akku zum Laden angeschlossen.

The dc voltage indicated in primary side is measured when input ac 220 V is applied. The measurement mode of dc voltage on this diagram is noload.

Schaltbild des Netzteiles PC-100A
AC Adaptor PC-100A Schematic Diagram

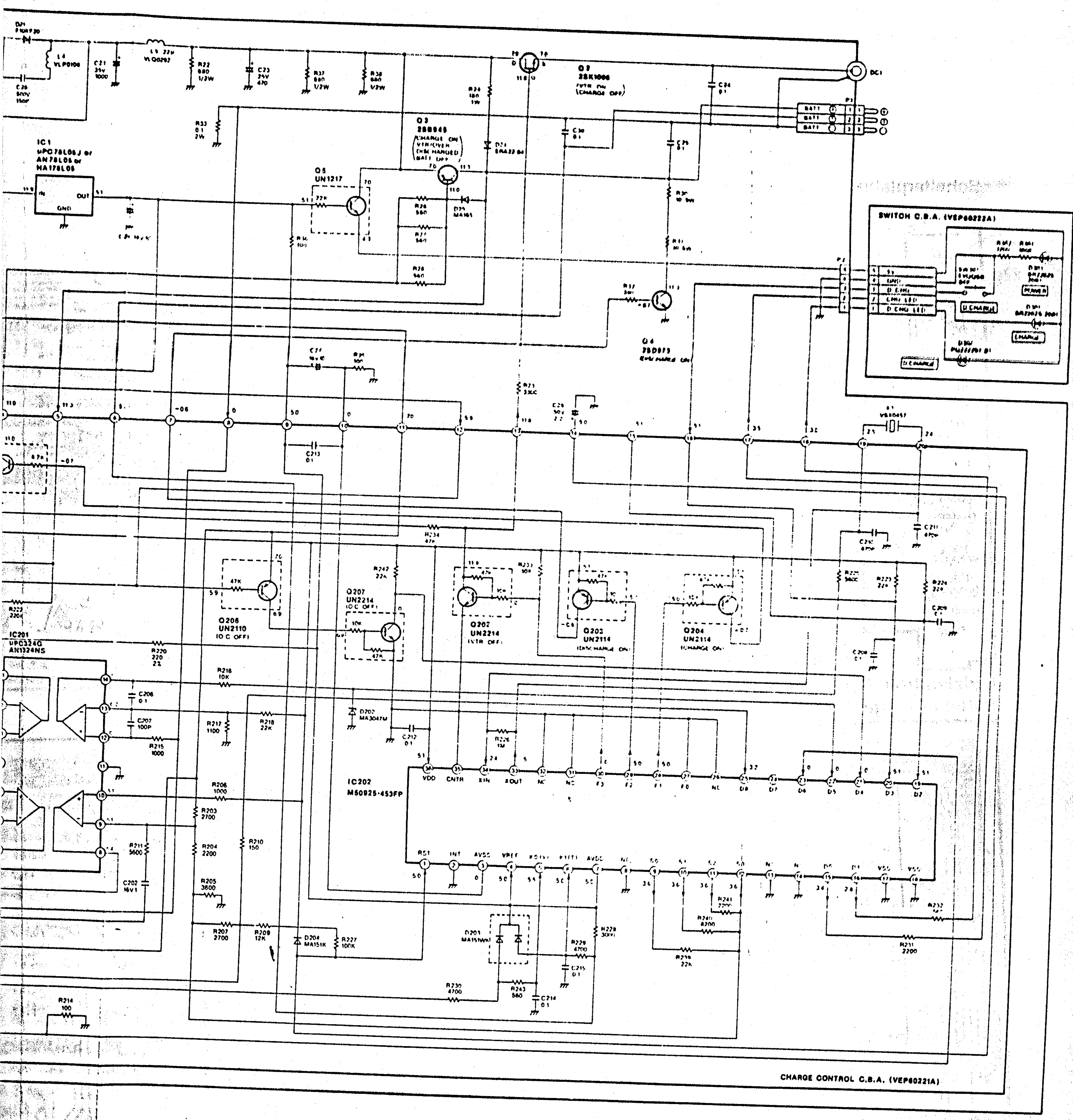


Die Spannungen im Netzadapter werden wie folgt gemessen:
Primär: C10 minus-Anschluß
Sekundär: Netzadapter- Chassis

When measure the voltage of the ac adaptor, connect the probe (earth side) of measuring equipment as follows:
Primary side: C10 minus terminal
Secondary side: ac adaptor chassis earth

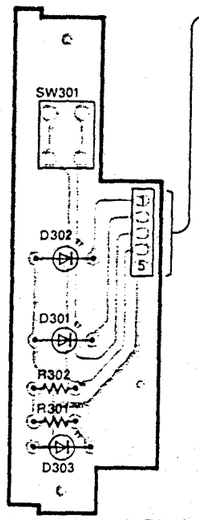
Die Gleichspannungen der Primärseite werden bei einer Eingangsspannung von 220 V AC gemessen. Es ist kein Akku zum Laden angeschlossen.

The dc voltage indicated in primary side is measured when input ac 220 V is applied. The measurement mode of dc voltage on this diagram is noload.

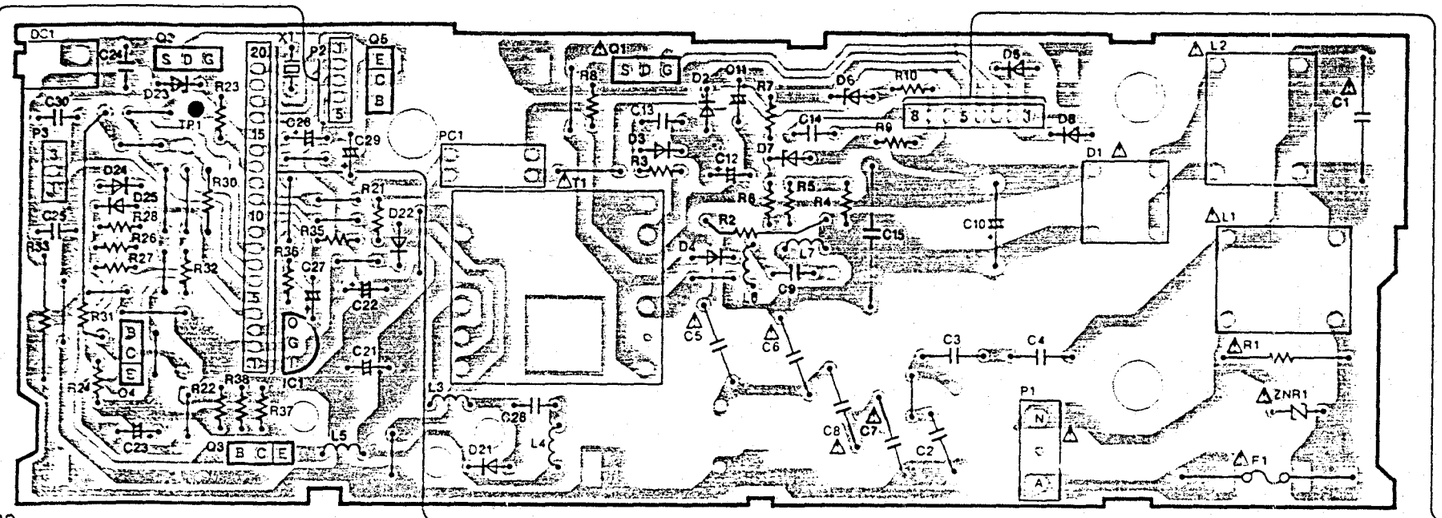

SWITCH C.B.A. (VEP60222A)
CHARGE CONTROL C.B.A. (VEP60221A)
DC1
IC1
uPC78L06J or
AN78L06 or
HA178L06
OUT
GND
Q2
2SK1006
Q3
2SB948
Q4
2SD973
Q5
UN1217
Q202
UN2214
(VTR OFF)
Q203
UN2114
Q204
UN2114
(CHARGE ON)
Q206
UN2110
(O.C OFF)
Q207
UN2214
(O.C OFF)
IC201
UPC324G
AN1324NS
IC202
M50925-453FP
D202
MA3047M
D203
MA151WA
D204
MA151K
R203
2700
R204
2200
R205
3600
R206
1000
R207
2700
R209
12K
R210
150
R211
3600
R214
100
R215
1000
R216
10K
R217
1100
R218
22K
R220
220
2.2
R227
100K
R229
4700
R230
4700
R231
2200
R234
47K
R242
22K
R243
560
C202
16V1
C206
0.1
C207
100P
C212
0.1
C213
0.1
C214
0.1
C215
0.1
VDD
CNTR
XIN
XOUT
RST
INT
AVSS
VREF
AVCC
VSS

Platinen des Netzteiles PC-100A
AC Adaptor PC-100A C.B.A's

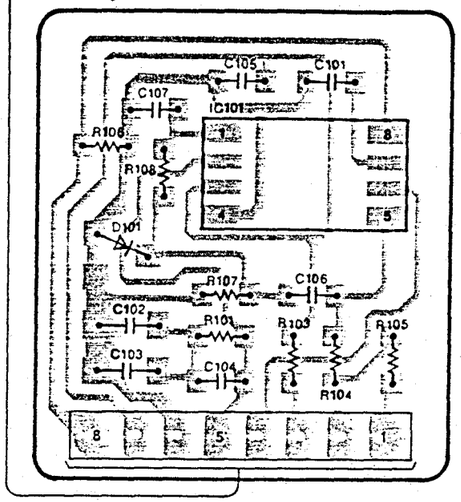
Schalterplatine
SW C.B.A.



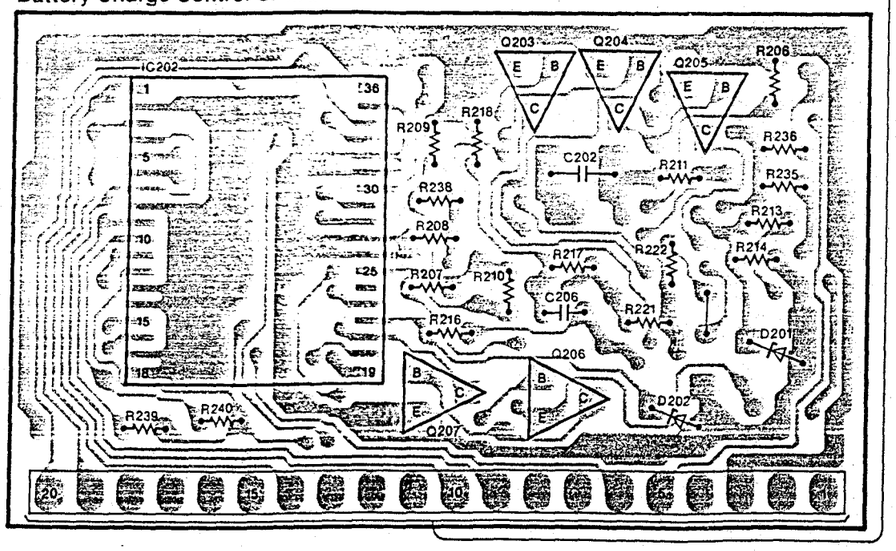
Hauptplatine
Main C.B.A.



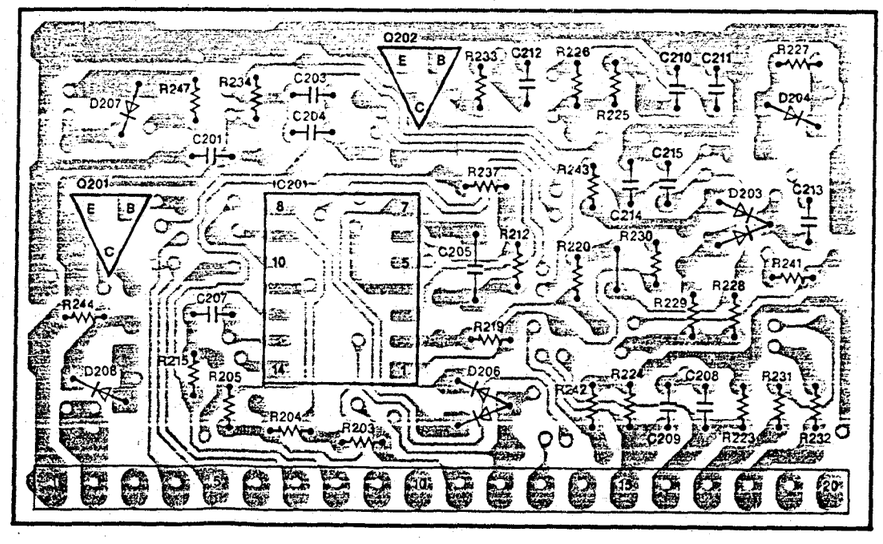
Primärkreis-Kontrollplatine
Primary Control C.B.A.



Ladekontroll-Platine
Battery Charge Control C.B.A.

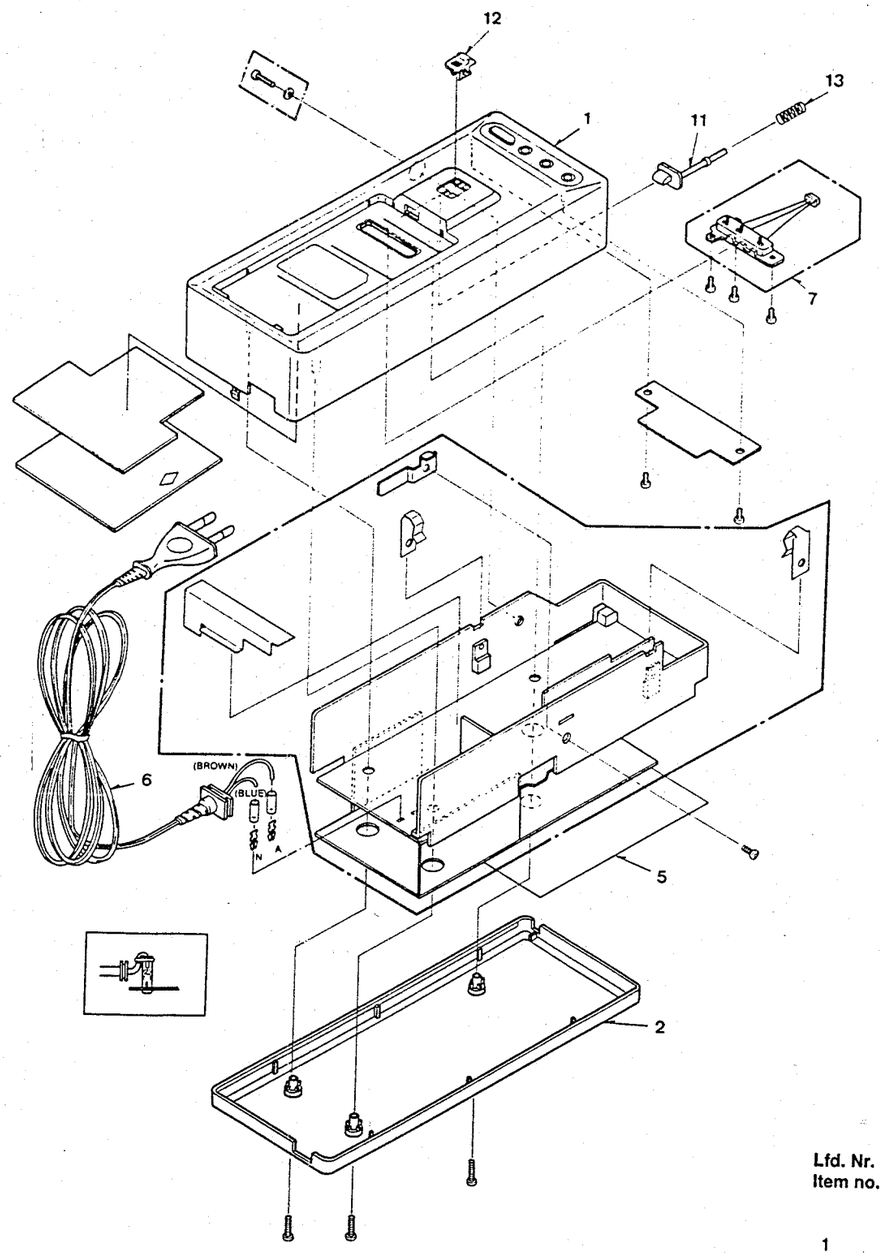


Bestückungsseite
Component side



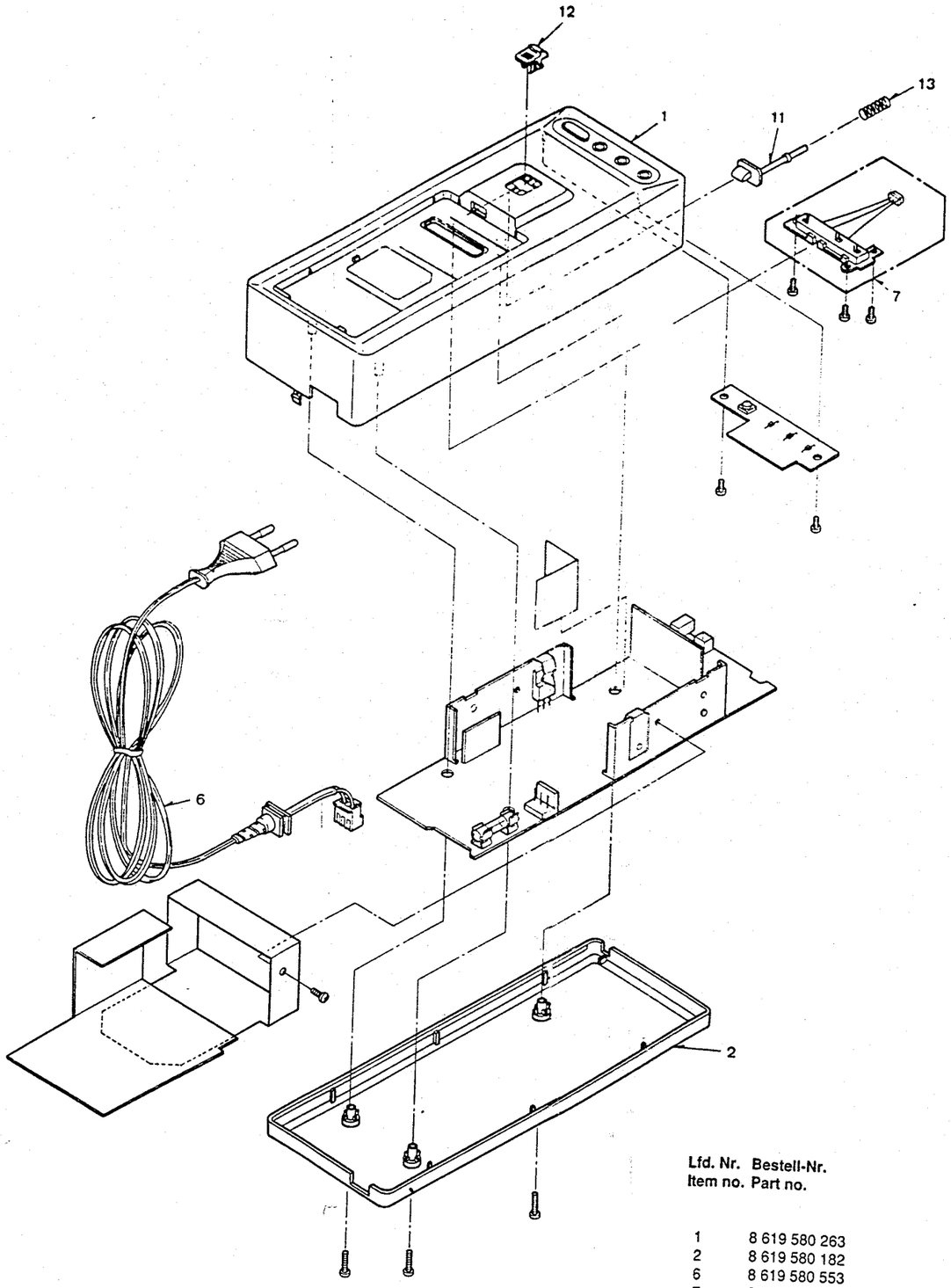
Lötseite
Foil side

Explosionszeichnung Netzteil PC-100
Exploded View AC Adaptor PC-100



Lfd. Nr. Item no.	Bestell-Nr. Part no.
1	8 619 580 181
2	8 619 580 182
6	8 619 590 703
7	8 619 520 626
11	8 619 510 394
12	8 619 510 424
13	8 619 510 631

Explosionszeichnung Netzteil PC-100A
Exploded View AC Adaptor PC-100A



Lfd. Nr. Item no.	Bestell-Nr. Part no.
1	8 619 580 263
2	8 619 580 182
6	8 619 580 553
7	8 619 520 641
11	8 619 510 394
12	8 619 510 424
13	8 619 510 631

Ersatzteilliste PC-100

Position Position	Bezeichnung Designation			Bestell-Nr. Part no.
	Hauptplatine			
	Main C.B.A.			**8 619 590 450**
1	Halter			
	Holder			8 619 580 183
2	Halter			
	Holder			8 619 580 184
C 1	0,1	µF	250 V	8 942 899 288
C 1	0,22	µF	250 V	8 942 222 503
C 2	2200	pF	250 V	8 942 210 319
C 2	3300	pF	250 V	8 942 899 287
C 5	2200	pF	250 V	8 942 210 319
C 5	3300	pF	250 V	8 942 899 287
C 6	68	µF	400 V	8 943 499 280
C 30	2200	pF	250 V	8 942 210 319
C 30	3300	pF	250 V	8 942 899 287
C 31	1	nF	250 V	8 943 499 089
C 33	1	nF	250 V	8 943 499 089
D 1	S 1 WBA 60 S			8 945 405 846
D 2	ERA 22-08			8 945 405 613
D 3	ERA 82-004			8 945 405 682
D 4	MA 4270 L			8 945 405 835
D 5	ERA 22-04			8 945 405 838
D 6	ERA 22-04			8 945 405 838
D 7	F 5 KF 20			8 945 406 182
D 8	MA 4062 L			8 945 406 013
D 9	MA 4091 M			8 945 405 737
D 10	MA 165			8 905 421 098
D 11	F 5 KF 20			8 945 406 182
D 12	MA 165			8 905 421 098
D 13	ERA 22-04			8 945 405 838
D 14	MA 4091 M			8 945 405 737
D 18	MA 165			8 905 421 098
D 19	MA 4039 L			8 945 421 224
D 21	MA 165			8 905 421 098
D 101	MA 151 K			8 945 405 226
D 102	MA 3051 M			8 945 405 840
D 201	MA 151 WA			8 945 405 707
D 202	MA 3051 M			8 945 405 840
D 203	MA 151 K			8 945 405 226
D 205	MA 3047 L			8 925 421 552
D 206	MA 151 K			8 945 405 226
D 207	MA 3047 M			8 945 405 815
DC 1				8 619 520 627
F 1	1,6	A	250 V	8 619 481 003
IC 1	UPC 78 L 05 J			8 945 902 073
IC 101	M 51976 FP			8 945 902 094
IC 201	UPC 324 G 2			8 945 901 937
IC 202	MN 1551 VMY			8 945 902 701

PC-100 Spare Parts List

Position Position	Bezeichnung Designation			Bestell-Nr. Part no.
L 2				8 619 530 073
L 3	33	µH		8 619 437 011
L 8				8 619 530 074
PC 1	PS 2561 L 1-1-M			8 945 903 143
Q 1	2 SK 1198			8 945 706 128
Q 2	2 SK 705			8 945 706 126
Q 4	2 SD 1583			8 945 706 127
Q 5	2 SD 637			8 905 705 605
Q 6	2 SB 641			8 905 705 540
Q 7	2 SK 705			8 945 706 126
Q 201	2 SD 601			8 925 820 030
Q 202	2 SD 601			8 925 820 030
Q 203	2 SB 709 A			8 945 705 364
Q 204	2 SD 601			8 925 820 030
Q 205	2 SD 601			8 925 820 030
QR 201	UN 2214			8 945 705 492
QR 202	UN 2213			8 945 705 315
QR 203	UN 2122			8 945 705 712
QR 204	UN 2214			8 945 705 492
QR 205	UN 2214			8 945 705 492
QR 201	UN 2214			8 945 705 492
R 6	68	kΩ	3,0 W	8 940 599 260
R 8	0,82	Ω	1,0 W	8 940 599 408
R 19	120	Ω	1,0 W	8 940 599 694
R 22	0,1	Ω	2,0 W	8 940 599 697
R 23	47	Ω	2,0 W	8 940 599 355
R 30	10	Ω	7,0 W	8 940 599 695
R 31	10	Ω	5,0 W	8 940 599 696
R 220				8 940 890 233
T 1				8 619 530 215
X 1				8 906 193 053

Ersatzteilliste PC-100

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.
ZNR 1	ENB 461 D-05 A	8 945 405 616
	Schalterplatine	
	Switch C.B.A.	**8 619 590 447**
D 15	PG 2222 SY	8 945 406 032
D 16	BR 2202 S-20 B 1	8 945 406 181
D 17	BR 2202 S-20 B 1	8 945 406 181
D 20	MA 165	8 905 421 098
IC 2	UPC 358 C	8 905 956 757
SW 2		8 619 326 224
	Primärkreis-Kontrollplatine	
	Primary Control C.B.A.	**8 619 590 448**
	Ladekontroll-Platine	
	Batt. Charge Contr. C.B.A.	**8 619 590 449**

PC-100 Spare Parts List

Position Position	Bezeichnung Designation	Bestell-Nr. Part no.

Hinweis:
Handelsübliche Kondensatoren und Widerstände sind in der Ersatzteilliste nicht aufgeführt. Wir bitten Sie, diese Teile im Fachhandel zu beziehen.

Note:
Capacitors and resistors usual in trade are not mentioned in the spare parts list. Kindly buy these parts from the specialized trade.

Position Position	Bezeichnung Designation			Bestell-Nr. Part no.
	Schalterplatine Switch C.B.A.			**8 619 510 952**
D 301	BR 2202 S-20			8 945 406 138
D 302	PG 2222 SY			8 945 406 032
D 303	BR 2202 S-20			8 945 406 138
SW 2				8 619 326 224
	Hauptplatine Main C.B.A.			**8 619 510 953**
C 1	0,1	µF	250 V	8 942 222 503
C 2	1	nF	250 V	8 943 499 089
C 3	1	nF	250 V	8 943 499 089
C 4	1	nF	250 V	8 943 499 089
C 5	1	nF	250 V	8 943 499 089
C 6	3300	pF	250 V	8 942 899 287
C 7	1	nF	250 V	8 943 499 089
C 8	1	nF	250 V	8 943 499 089
C 10	68	µF	400 V	8 943 499 280
D 1	S 1 WBA 60 S			8 945 405 846
D 2	ERA 22-04			8 945 405 838
D 3	ERA 22-04			8 945 405 838
D 4	ERA 22-08			8 945 405 613
D 5	ERA 82-004			8 945 405 682
D 6	MA 4270 H			8 945 405 849
D 7	MA 4360 L			8 945 421 460
D 8	ERA 82-004			8 945 405 682
D 21	F 10 KF 20			8 945 406 291
D 22	ERA 22-04			8 945 405 838
D 23	MA 4091 M			8 945 405 737
D 24	ERA 22-04			8 945 405 838
D 25	MA 165 VT			8 945 406 279
D 101	MA 151 K			8 945 405 226
D 201	MA 3047 M			8 945 405 815
D 202	MA 3047 M			8 945 405 815
D 203	MA 151 WK			8 945 405 317
D 204	MA 151 WA			8 945 405 707
D 206	MA 151 WA			8 945 405 707
D 207	MA 151 K			8 945 405 226
D 208	MA 3047 M			8 945 405 815
DC 1				8 619 520 627
F 1	1,6	A	250 V	8 619 481 003
IC 1	UPC 78 L 05 J			8 945 902 073
IC 101	FA 5304 S			8 945 903 198
IC 201	UPC 324 G 2			8 945 901 937
IC 202	M 50925-453 FP			8 925 900 767
L 1	29	µH		8 619 437 010
L 1	29	µH		8 619 437 010
L 5	33	µH		8 619 437 011
PC 1	PS 2561 L 1-1-M			8 945 903 143
Q 1	2 SK 1662			8 945 706 149
Q 2	2 SK 1096			8 945 706 150
Q 3	2 SB 1632-01			8 945 706 151
Q 4	2 SD 973			8 905 705 495
Q 5	UN 1217			8 940 890 145
Q 201	2 SB 709 A (MSB 709)			8 945 705 364
Q 202	UN 2214			8 945 705 492
Q 203	UN 2114			8 945 705 720
Q 204	UN 2114			8 945 705 720
Q 205	UN 2216			8 945 705 930
Q 206	UN 2210			8 945 705 465
Q 207	UN 2214			8 945 705 492
R 2	100	kΩ	2 W	8 940 599 142
R 8	0,18	Ω	1 W	8 940 599 724
R 24	180	Ω	1 W	8 940 599 723
R 30	10	Ω	5 W	8 940 599 696
R 31	10	Ω	5 W	8 940 599 696
R 33	0,1	Ω	2 W	8 940 599 725
T 1				8 619 530 215
X 1				8 946 193 388
ZNR 1	ENB 461 D-05 A			8 945 405 616
	Primärkreis-Kontrollplatine Primary Control C.B.A.			**8 619 510 958**
	Ladekontroll-Platine Batt. Charge Contr. C.B.A.			**8 619 510 959**

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